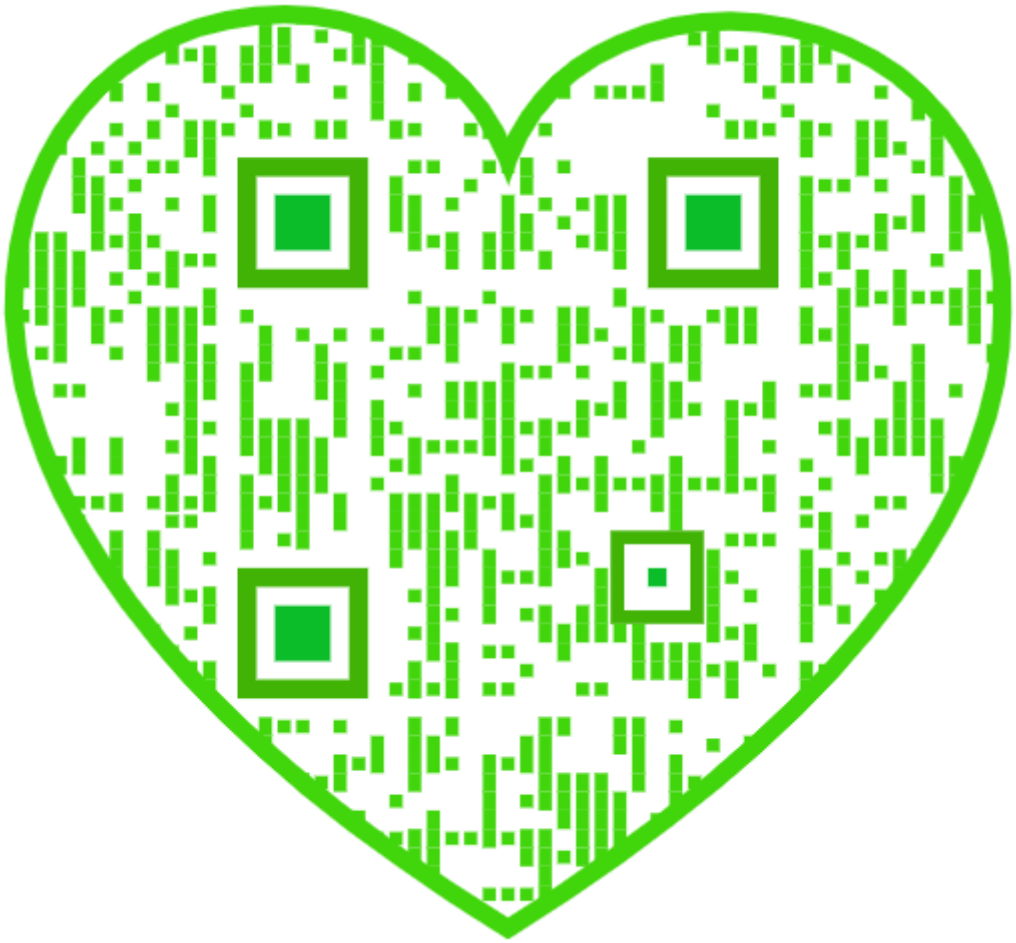

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The Germicide

Twentieth Century Practice

of Medicine

AND

Dictionary of Diseases

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THEIR TREATMENT WITH

NEWER REMEDIES ∴ ∵ ∴

BY

R. R. RUSSELL, M. D.

Editor of "The Germicide"

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THE TWENTIETH CENTURY PRACTICE

A Dictionary of Diseases, Their Treatment With Newer Remedies.

ABDOMEN.—The belly or lower portion of the body is separated from the chest by the diaphragm. For the purpose of description, it is divided into three anterior regions, naming them from above downwards, viz., *epigastric, umbilical, and hypogastric;* each of which is divided into three, making it nine regions, the upper three being the *epigastric,* with the right and left *hypochondriac* regions on each side of it. Below this the *umbilical* region, with the right and left lumbar on either side of it, and the lowest of all the *hypogastric* regions with the right and left iliac regions. The abdomen contains the stomach, intestines, liver, pancreas, spleen, kidneys, bladder, and is lined with a fine delicate membrane, of the white fibrous tissue class, termed the peritoneum, which is reflected on all the organs contained therein.

ABLUTION.—Washing or bathing the entire body should be performed daily. The skin at all times is throwing off toxical agents, gaseous, alkaline, carbonaceous matter, so that when it is caked over with perspiration and dirt it is unable to eliminate. Neglect ablution, or thorough washing off, additional work is thrown upon both liver and kidneys and other excretory organs; then languor, low spirits, headache from the presence of effete matter accumulated in the blod; then gout, rheumatism, If the function of the skin were arrested, death would result. Cleanse the skin—a thorough purification once daily of the entire body with an alkaline wash; for the healthy, cold water on rising; for the delicate, tepid water. A proper reaction must be the guide, never to be chilled nor languid after the bath.

The majority of human kind are but imperfectly washed in both city and country, which gives them a predisposition to

disease. Healthy and happy results follow cleanliness, which is a matter of public interest. Sanitary science teaches that dirt, filth, and effete matter are the enemies of public health, no matter how and where it exists.

The toxicity of human sweat is admitted; besides the skin is at all times excreting effete matter, in the form of a gaseous, saline oleaginous substance, which is indispensable for the health of the body. If the function of the skin be impaired, the liver and kidneys must do its work; if not, auto-intoxication, with its languor, low spirits, severe headaches, uric acid gout, gravel, will result; consequently for good health the entire surface of the body should be cleansed daily, with soft water, if possible with soap, good brown or castile soap; with that a thorough purification of the entire surface of the body should be effected. All medicated soaps are poisonous; nearly all contain either the bichloride of mercury, or formalin, or asepsin, or salicylate of soda. Beware of them, all—germicide, antiseptic, aseptic, so technically called—are bad. After ablution it is always desirable to rub the surface thoroughly with a dry towel until a warm glow is produced and the capillaries well dilated.

Thorough ablution is most requisite. The temperature of the water should be regulated by the status of vital force.

ABORTION.—Miscarriage; the expulsion of the fœtus before the seventh month of utero-gestation, or before it is viable. The causes of this accident are referable either to the mother, and particularly to the uterus, or to the fœtus and its dependencies. The causes in the mother may be extreme nervous susceptibility, great debility, toxins of disease germs, plethora, faulty conformation; frequently induced by intense mental emotion, rectal irritation, violent exercise.

The causes located in the fœtus are its death, rupture of the membranes, degenerative changes in the placenta.

The period at which it is most liable to occur is about the fourth month of gestation.

The symptoms of abortion are uterine hemorrhage, with or without flakes of decidua, with intermitting pain of a bearing-down character. Its occurrence predisposes to a tendency to recur again and again in subsequent pregnancies, about the same period. The treatment consists in perfect rest in the recumbent position in bed, the avoidance of all hot or stimulating drinks.

The best remedies for either prevention or cure are the compound syrup of partridge berry, or wine of aletris farinosa. If neither of these are convenient, tincture opii, small doses, repeated.

ABRASION.—A superficial excoriation with loss of substance. Cleanse, dry, then dust on formal-gelatine—cover. Instantaneous cicatrization takes place.

ABRUS PRECATORIUS.—Jequirity, small oval scarlet seeds or beans, which grow abundantly in Brazil.

The seeds, reduced to a powder and infused, when cold, dropped into an eye covered with an opacity of effused lymph, repeated on several occasions, will cause a peeling or exfoliation of the mucous membrane in which the effusion has taken place.

By incorporating the powder in butter of coca and moulding it into a crayon suppository or pastil, inserted into either the rectum or vagina, permitted to remain over night, will cause a complete exfoliation of the mucous membrane with any thickening vegetation, wart thickening, polypoid, cancerous infiltration, leaving the mucous membrane in its original healthy condition.

A distillate of jequirity has been found of much value in the cicatrization of cancers when they are removed by either the ozone, or chloride of chromium paste.

ABSCESS.—The accumulation of pus in a cavity or in the tissues of the body, a result of the effusion of lymph, which is liable to occur in acute and chronic inflammation. The lymph, owing to some adverse condition, breaks down and forms pus, living matter, a disease germ.

Streptococcus pyogenes. The formation of pus may take place during either the active or passive stage of inflammation, or subsequently if effused. The indications of such a change would be shivering or rigors, with general constitutional disturbance and rise of temperature, moist skin, soft pulse, tongue coated, prevented secretions. If there be pain, it changes to that of the dull, throbbing character. The effusion or swelling, which at first is hard and firm, softens, fluctuation can be detected by the touch; if vital force is average it forces it to the surface, and probably evacuates itself—if not, it must be aided by heat and moisture, in the shape of poultices.

The severity of symptoms usually depends much on the character of the inflammation that gives rise to it, its intensity, its deep-seated nature, bone or tissue affected. Abscess of the liver is exceedingly dangerous; whereas, in or near the skin, causes little trouble.

If there be no tendency to break and evacuate itself, aided by heat and moisture, an evacuation should be made by the knife, a free opening and counter-opening, and peroxide of hydrogen applied and re-applied until every pus microbe is annihilated.

Pus, in whatever form is occurs, is simply a mass of disease germs. *Streptococcus pyogenes* in its growth creates a deadly poison. Other germs are recognized as associates; two of these *are Staphylococci,* which occur in groups, which, under the microscope, resemble a fish roe or a bunch of grapes, which, when cultivated, give us the *S. pyogenes aureus,* golden or yellow opaque colonies, and the other the *S. pyogenes albus,* white opaque masses.

Thse septic organisms closely resemble each other, and are sometimes found all together and often singly.

In whatever form we find pus, serous, muco-purulent, sanies or laudable, the pathogenic microbe is there, consisting of slender ends, linked two or three together, or else collected in regular masses. It is a microbe of great growth by spore formation on liquid gelatine at a temperature of 100° F.

ABSINTHIUM.—(Wormwood; leaves and tops of *Artemesia absinthium.*) It has properties of a tonic, antispasmodic, anthelmintic character, that render it useful in dyspepsia, gout, dropsy. An enema of a decoction is of efficacy in ascarides. Besides being prescribed as a stomachic, it is quite extensively used by the French in the preparation of liqueurs, such as absinthe, the use of which gives rise to a species of alcoholism with predominant nervous symptoms. The absinthe habit gives rise to gastric derangements, night terrors, terrific abdominal pains, hallucinations, tremors, paralysis. A state of mental chaos and bankruptcy cured by the use of ozonized passiflora incarnata in large doses.

ABSORBENTS.—Small, delicate vessels, which take up fluids and gases with which they come in contact and carry them into the blood.

A general division is made of external and internal; other subdivisions are made. The principal agents of external ab-

sorption are the veins and chyliferous vessels. Any fluid, medicated or otherwise, possessing the necessary tenuity, passes through the coats of the vessels by endosmosis, and proceeds along the torrent of the circulation, and, if medicated, finds the organ or tissue for which it has an affinity. The internal embraces the entire alimentary canal, vagina, urethra, all literally studded with absorbents.

ACETIC ACID.—A colorless acid liquid obtained from wood by destructive distillation. A caustic and counter-irritant. It contains 33 per cent of pure acetic acid. It is largely used in medicine and pharmacy, principally in conjunction with other drugs. There are two other Pharmacopœial acetic acids —dilute acetic acid (one part of acetic acid to seven of water) and glacial acetic acid (concentrated acetic acid, containing 99 per cent of acetic acid).

Salts, formed by the union of acetic acid with a suitable base, as soda, zinc, etc., are termed acetates, and are very soluble in water.

Vinegar should contain 5.41 per cent of acetic acid, which, when taken, excites an alkaline secretion in all the glands of the body, destroys all disease germs, is a refrigerant, diuretic, in doses from one dram upwards. Added to water, of great efficacy as a sponge bath in all fevers twice daily; passes freely by endosmosis into the blood, increasing its alkaline constituents. Besides, it is a bactericide of some value in sore throat; a valuable lotion in burns, sprains, bruises; excellent as an eye lotion when lime has found access to it.

ACIDS.—A numerous class of chemical bodies which have the property of uniting with bases to form salts. They have a great affinity for, and are soluble in, water. They have a sour taste, and turn most vegetable blues, such as litmus, red. *Oxyacids* are those containing oxygen. *Hydracids* are formed by hydrogen. *Anhydrous acids* contain no water. *Mineral acids* are those formed from the mineral kingdom. *Organic acids* contain carbon, and are formed from the organic kingdom. The syllables *ous* and *ic,* which are affixed to acid compounds, denote different acids which vary only in the amount of oxygen in each. Thus sulphur*ic* acid contains more oxygen than sulphur*ous* acid. The principal acids used in medicine are acetic, hydrochloric, nitric, sulphuric, phosphoric, nitro-hydrochloric, citric, trataric, benzoic, carbolic, and salicylic

acids. In concentrated form acids are mostly caustic. In medicinal doses they diminish acid and increase alkaline secretions. Hence their utility in the treatment of disease.

Benzoic acid, in 30-grain doses, repeated at proper intervals, annihilates the micrococcus urea.

Carbolic acid, a powerful bactericide, must be used with great care, as it is prone to paralyze the heart, the respiratory centres, and cause embolism of the blood.

Chromic acid, never used internally; excellent as a painless caustic to destroy warts, piles. Never use over a large area of surface, as there is liability of absorption into the blood, giving rise to inflammation of the liver and stomach and speedy death. As a lotion for painting ulcers, 5 to 10 grains to the ounce of water. The acid explodes if brought in contact with alcohol, glycerin.

Lactic acid, strong; good for painting on in cancer of the neck of the uterus. The dilute acid given in dyspepsia in form of a lemonade, a few drops to sweeten the water.

Nitric acid.—Muriatic and nitric acids are of great value in blood and liver diseases.

ACHOLIA.—A suppression of the secretion of bile. A symptom of paralysis of the liver, due to the toxin of the malarial parasite, of the common bacillus, fungus of yellow fever, poisons of mercury and alcohol—inhalation of sewer gas. Give periodate aurum, under and on the tongue, small but frequent doses, till relieved.

ACNE.—A chronic skin disease in which the sebaceous glands are affected; four different varieties are recognized: *acne punctata,* the mildest form, sebum is retained; being unable to escape, an elevation is formed, the tip of which is marked by a black spot, indicating the opening of the follicle. As a result of irritation inflammation may occur, causing thickening induration of the follicles, and when this takes place it is termed *acne indurata;* inflammation still more severe, suppuration may take place—*acne pustulatum.* These *three* varieties are common among young people of both sexes on face, neck, cheek, back.

The fourth variety, *acne rosacea,* or grog blossom, occurs on the nose, tips of cheeks and adjacent parts, characterized by an increased formation of connective tissue, very vascular, intensely red, and caused by derangements of the digestive organs.

In the treatment, nutritious, but non-carbonaceous food; keep bowels open with kola nut paste; daily bathing. Ozone tablets are excellent alternated with 15-drop doses of ozonized tinc. lycopodium three times a day. Two of the best remedies ever introduced for the purpose of rousing the sebaceous follicles into healthy action.

Local remedies.—Jelly of violets excellent to get rid of thickening pustules; two grains of bichloride of mercury to one ounce of ozone ointment is also of efficacy; salicylate of soda ointment; one ounce of lactic acid, c. p., to half pint rose water. Another form is, lemon juice, 2 ounces; powdered borax, 50 grains; 60 grains sugar; 5 drops of formalin; mix.

Before any local application is applied the face should be washed with hot water.

ACONITE (*Folia et Radix*).—A mother tincture of either the leaves or the root, very valuable as a cerebral and arterial sedative in all fevers and inflammations, especially if the heart be weak, and there be obstruction to the circulation of the blood.

Dose.—5 to 10 drops to 4 ounces of water, a teaspoonful of this dilution every hour, or more frequent, till the skin becomes moist and temperature lowers.

ACTINOMYCOSIS OR RAY FUNGUS.—Throughout various sections of the country this malady has prevailed in an epidemic form. What is it? A pathogenic microbe which originates chiefly among cows, in particular pastures, in which the fodder is rough, sharp, causing an abrasion in the mouth, hence it is usually found upon the tongue and mucous membrane. In this crack, or breach, the evolution of this bacillus takes place, and then propagates itself by contagion and infection.

It is not conceded that the flesh of the cow causes the infection, for the microbe is destroyed the moment it is immersed in water or even very slightly cooked. Milk of the infected animal is the chief means of communicating the microbe to man. In the human being it has a special affinity to localize in the mouth, either in the mucous membrane through some erosion, or in the exposed pulp of a carious tooth. Once located, it soon enters the blood, and then its select location is the lungs, liver, blood-forming glands. Once the microbe is in the mouth it is readily communicated by kissing, by the dental forceps,

then if not killed it sets up irritation, inflammation, in which a fungous growth is formed, made up of round cells, which may break down or go on, increasing in size, forming nodules, with fibrous growths between. The nodules by and by become excavations or cavities, abscesses filled with purulent, germ-laden matter; if the germ does not find an abiding place in the mouth, it selects the lungs, where it produces great havoc, destroying their substance, giving rise to fetid expectoration, exhausting sweats. The liver, pink marrow, lymphatics, tonsils, often become invaded by the fungus.

The microscopical appearances, with a power of two hundred and fifty diameters, are rosettes of pyriform or club-shaped masses, which are arborescent, pure white or of a yellowish hue.

The microbe is pathogenic of the malady, bears cultivation well in blood-serum or beef-tea. Cultures injected hypodermically into any mammalia give us the disease in twenty-four hours.

Those usually affected with it are butchers, milkmen, cattle-dealers, goat-milk consumers, and frequenters of dental offices.

Before any remedies are applied, all abscesses should be freely opened, and counter openings made, so that the bactericide can reach the microbial nest. Then select either peroxide of hydrogen, or a solution of boroglyceride, or anti-microbe powder, or salicylate of soda, or tincture of siegesbeckie—these should be used freely.

There is little doubt, whether located in the oral cavity or the lungs, the best remedy for internal administration is the sulphide of calcium, one grain every hour; as symptoms ameliorate less frequently.

ACUPRESSURE—A means of arresting hemorrhage from a cut artery by passing a needle or pin under the artery, and producing pressure by means of a ligature passed in the form of a figure-8 fashion from one end of the needle to the other. It is of great utility, whenever disease of the coats of a vessel is suspected, such as exists in arteriosclerosis, thickening, hardening, and other senile changes.

ACUPUNCTURE.—A method of local stimulation or counter-irritation, which has been extensively practiced. It consists essentially in the formation of a group of either steel, silver, or gold needles, arranged on a block, which are brought down upon the part to be stimulated, repeated all over the af-

fected area. It must never be used over any bony projection, never to the depth of drawing blood. The instrument dotted over with needles is sometimes used to conduct electricity into the parts, but better still is the application of the oil of mustard over the points of penetration. The treatment has been of special advantage in spinal irritation, sciatica, ataxia, neuralgia.

ACROMEGALY.—This is a hyperplasia of the most diverse kind, first seen in the bones, brain, nerves, with alterations in the thyroid and thymus, characterized by widespread tissue growth.

The etiology of the malady is still in doubt. There is an irritation; whether it be chemical or bacteriological, or some tropho-neurotic influence from a degenerated brain, diseased nerves, chaotic, sympathetic, or some chemical agent irritating the tissue, it is impossible to say. Many justly believe it to be a morbid state of the thyroid—a vitiated sensation.

The initial symptoms, which either precede or accompany the enlargement of the extremities and head, are debility, nerve tire, drowsiness, headache, severe attacks of migrain, pain throughout the entire body, but the most striking symptom in all cases is the advancing enlargement of the extremities—the colossal development of the hands and feet—legs and forearms, in the regions of the wrists and ankles. It may be symmetrical all over, or one half of the body clear down may only partake of the enlargement, or it may be confined to the feet, or some other part.

In an examination of the bones, the enlargement is found to be an overgrowth of the bones, especially in their breadth and thickness. In addition to those bones enumerated, bones of the face, lower jaw, cheek, and with them other tissue, such as enlargement of the under lip, nose, tongue; sometimes the ear, eyelids, larynx; more rarely thickening of the femur, humerus, scapula, ribs. The progres of the malady is slow, stationary for decades.

Many bony diseases resemble acromegaly superficially, but it must be borne in mind that in acromegaly there is no deformity of joints, no tenderness, no grating, no exudate.

No remedy, so far available, but alteratives, tonics, a constructive course of treatment in which the glycerin extract of the lamb plays an important part, usually relieves the weakness and nervousness.

ADHESION.—A result of inflammatory action, of effusion of plastic lymph from the blood, by which parts of the body, naturally separated, become united, or adherent to each other. All the various structures of the body are thus, if severed, capable of being united or repaired. Undesirable adhesions often take place in the serous membranes, in pleurisy, peritonitis, pericarditis, membranes of the brain.

In synovial membranes, which line joints, especially in chronic rheumatism, giving rise to partial or complete ankylosis.

In the ligation of blood-vessels, or acupressure, the internal coats of the artery unite by adhesion. Nerves will unite, if placed in perfect apposition, both motion and sensation be restored, and the sheath of a nerve often unites with the nerve itself in sciatica.

Mucous membranes will unite, if lacerated or torn. The skin, if all foreign bodies be removed and perfect apposition maintained; raw surfaces, if kept in contact, as in burns of the fingers, often adhere.

Adhesion of bones takes place under perfect apposition and rest. Adhesions give rise to deformities and are the cause of much chronic disease of vital organs, as brain, lungs, heart.

When it is desirable to get an effusion of lymph for repair of tissue, keep vital force normal by diet, bathing, rest, blood vitalizers; when effusion of lymph is not the aim, stimulate the parts more actively, so as to induce leukocytosis.

The treatment of adhesions in joints requires great tact, good judgment, and a long, persevering use of comp. saxifraga.

ADENITIS.—Inflammation of the lymphatic glands. Its etiology is either some toxin in the blood or some local irritation—the former embraces the absorption of septic matter, toxins of disease germs, the debris of bacterial growth, such as the toxins of tubercle, syphilis, cancer, bubonic plague, etc.; the latter local irritation.

Treatment.—It may be advisable in some cases to hasten suppuration, with either frequently changed lye poultices, until it points, or, in other words, until the lympth in which the toxins are effused breaks down entirely, and the skin ruptures, its contents escape, or make free crucial incisions into it, which can be adopted. Peroxide of hydrogen will play an important part as a local remedy, while echinacea or other antiseptics internally. A constitutional course should be adopted based on the producing cause.

ADENOMA.—Pseudo-leucocythæmia is a peculiar disease of the blood, like leucocythæmia dependent upon an enlargement or hypertrophy of lymphatic glands; glands of neck, axilla, groin symmetrically enlarged, not inflamed or fused together; thoracic and abdominal glands also affected. Patient becomes weak, loses flesh, soon out of breath on exertion, symptoms of pressure at base of chest or abdomen, gradually increasing debility. It is also called Hodgkin's disease.

It is well known that the lymphatics preside over or are carriers of nutrition or lymph, but how they influence the blood in the production of white cells is unknown. The spleen, lymphatics, mesentery, suprarenal capsules, and the pink marrow of the bones constitute the great lymph channels; in each or all of them when obstructed, damaged or diseased, there is the prevailing characteristic cropping out—excess of white corpuscles.

Alterative and tonics should be persevered with.

ADIPOSE TISSUE.—There are drugs, when properly administered, of real merit in the removal of superfluous fat from the human body; we enumerate the two leading remedies, namely, the ozonized juice or succus of the ripe phytolacca berries and the ozonized extract of fucus vesiculosus, both excellent alteratives, inimical and destructive to adipose tissue, and still both remedies fail in certain cases.

When there is a decided failure of action of either or both those remedies in obesity, close observation will show that there is a cirrosed liver as the cause, a liver that is either blighted with alcohol or malaria, or degenerated by mercury or syphilis; remove this condition by the proper remedies, and all will go well.

In the selection of the pokeberry juice, it must be genuine ozonized, no patent nostrum in which mercurials are loaded up.

The juice of the phytolacca berries need no adjuvant to aid their action in wiping out adipose tissue.

The fucus vesiculosus must also be well guarded, the ozonized extract must be selected and administered in such doses as to affect the liver; then it will soon be visible, a disappearance of all superabundant matter. To be effective, it must be prepared from the fresh bladder wrack, and its properties extracted by a special menstruum.

If either of the two remedies do not act promptly, take it for granted that there is either a sluggish or indurated liver, and

administer from five to ten grains of the periodate aurum every other night; this aids matters materially at all events; it is worthy of a trial in all cases in which non-success has followed the original treatment.

The ozonized extract of the thyroid gland is one of the most effective, most reliable of all anti-fat remedies; it has a most powerful influence in reducing adipose tissue.

AIR.—The atmosphere which surrounds the globe on which we dwell, and extends to a height of about forty-five miles, consists of a mixture of oxygen and nitrogen in the following proportions: by volume, 21 of oxygen to 79 of nitrogen; by weight, 23 of oxygen to 77 of nitrogen. Although oxygen and nitrogen make up the bulk of the atmosphere, yet small quantities of other substances may be present; some of these are impurities, whilst others are useful constituents. The other useful constituents of the air besides oxygen and nitrogen are water (in the shape of aqueous vapor, clouds, or mists), carbonic acid gas, and ozone. The impurities which may exist in the air in small quantities are nitrogen tetroxide, nitric acid, sulphur dioxide, sulphurous and sulphuric acids, chlorine, sulphuretted hydrogen, carbonic acid gas (in excess), soot, fungoid, and bacterial micro-organisms. The oxygen of the air supports combustion and animal life. The nitrogen is only useful as a diluent of the oxygen. If it were not present animals would live too fast and would soon die. The carbonic acid gas is useful, for on its presence the life of plants depends. When in excess, however, it becomes a dangerous impurity, not so much from its own poisonous properties as from the fact that it affords an index of the amount of highly poisonous effete organic material which is present. Thus air containing .04 per cent of carbonic acid gas is pure, but if the quantity amounts to .06 per cent the air becomes stuffy and foul because of the putrefiable organic matter excreted from the lungs with the carbonic acid gas. Ozone does not, as a rule, exist in towns, and is found in greatest amount near the sea. The impurities of air are chiefly derived from the combustion of fuel, from chemical works and sewer gas.

The inhabitants of our large cities are often the victims of inhaling sewer gas, owing to some sanitary defect, deficient connection or crumbling of pipes, permitting sewage and its deadly microbic emanations to permeate the earth.

In sewage there is to be found every pathogenic and non-

pathogenic germ, the gases from which the most toxical agents can be isolated.

The denizens of all our cities breathe these poisons; consequently none are well. Every man, woman and child complains of languor, lassitude, debility, headache, stiffness in the joints, bad odor of the breath, and coated tongue. Our population feel aged; our city physicians call this malaria, whereas it is sewer-gas poisoning.

Feeble women, more dilapidated children, often succumb to its influence, die from its effects. Quite a number of deaths can be traced to this source. They die with all the symptoms of blood poisoning, symptoms peculiar to itself, neither present nor described as existing in any other disease.

The microbicide from which the most signal benefit can be derived is ozone water, that great scavenger to diseased, germ-laden blood. The dose is two drams to one tumberful of water, of which one tablespoonful is given at intervals, half an hour apart. Its effects upon all cases are marvelous. Under it, pain in the head, back and calves disappears, tongue cleaned, temperature and pulse subside; every symptom yields to its magical power, besides it exerts a renewal of life in every structure.

For sewer-gas poisoning, ozone water is superior to peroxide of hydrogen or any other remedy, and it would be prudent for any physician in a city to keep it in all the families over which he presides, as their guardian angel of health.

Under the influence of protonuclein, my patients made an excellent and rapid recovery.

ALBINOS.—A term applied to individuals who have a white skin, with white or yellowish white hair, the iris very pale, bordering on red, and the eyes so sensitive to light that they cannot bear daylight. The condition is congenital, and is common among all races of men. As a rule, there is a great lack of mentality. Cause unknown.

ALBUMINURIA.—The presence of albumin in the urine may be either temporary or permanent; the former, when due to either the toxins of disease germs, or the microbes themselves passing through the kidneys, which is invariably the case in scarlet fever, erysipelas, smallpox, cholera, typhoid fever, pneumonia, etc.; the latter, in all pathological states of the kidney, as chronic inflammation, diabetes, cardiac disease, tuberculosis and cancer.

The best method to detect albumin in the urine is to boil it, add nitric acid to it, which will coagulate all the albumin.

If due to the presence of disease germs and their toxins in the kidney, administer nitrite of sodium, with large doses of passiflora; if due to degenerative changes (Bright), celery comp., nitroglycerin and protonuclein; if due to the glucose fungus, jambul and peroxide of hydrogen; if due to cardiac disease, digitalis and creatinin; if due to the bacillus tubercle, saturate the system with guaiacol; if to the cancer neoplasm, Chian turpentine mistura.

ALCOHOL.—A colorless liquid obtained by the distillation of fermented saccharine liquids. It is pungent to the taste and smell, is very inflammable, burning without smoke, and is miscible with water in all proportions. It possesses great solvent properties, particularly with regard to resinous substances. It is, therefore, used largely in medicine in the preparation of drugs, as in tinctures and alcoholic extracts. There are a large number of alcohols known to chemists, but that generally referred to under the name alcohol is ethylic alcohol.

ALCOHOLISM.—A disease, or rather a series of diseases, caused by the use and abuse of alcoholic drinks. Its ordinary course is to give rise first to digestive disorders, morning sickness, nausea, vomiting, loss of appetite—troubles of motility, muscular debility, cramps—then nervous affections, insomnia, hallucinations, paralysis, idiocy, epilepsy—mental and moral derangement, loss of memory and will-power, an abrogation or at least a diminution of the moral sense.

All drugs have a primary and secondary action, but here the nervous system is primarily affected, and a better division is *acute* and *chronic*. In the *acute*, symptoms immediately or soon after the ingestion of the alcohol, ordinary beastly drunkenness; mental states closely allied to hysteria; apoplectic form, comatose condition, frequently terminating fatally. Alcoholic libations carried to inebriation act with energy on the nerves of special sense: vision is dimmed; hearing blunted; anesthesia sets in, the reflexes are palsied, and ataxia of the voluntary muscles follow, want of muscular control, usually followed by unconsciousness.

In the chronic there are a larger number of victims attacked; its effects are widespread, not only on the individual, but his family, society, civilization are affected by it. He im-

plants degeneracy on himself and offsprings; he takes in the nation as a type of physical and moral degeneracy; diminished mental power, vertigo, all sorts of mental disorders, involuntary oscillation of body when standing, difficulties in walking; stuttering; lack of co-ordination of muscular movement, a general diminution of strength and muscular contractility.

The daily use of alcohol anticipates age; in the drunkard as in the aged we have atrophy of the brain, an increase of the cerebro-spinal fluid—fatty degeneration of blood-vessels, of heart-muscle, of liver and kidneys; dilatation of the pulmonary air cells (emphysema); ossification of the costal and laryngeal cartilages. A rarefaction of bony substance, in which adipose tissue enters its place.

Degeneracy does not disappear with the drunkard; he engrafts it on his children in the idiocy of alcoholic conception—diseases of a lower type, suicides, madness, crime, epilepsy. In the chronic form the drink habit is acquired and other changes in the nervous system of great importance. The first action of alcohol is to stimulate the circulation and brain; it borrows from the vital resources a sufficient amount of force to make a display of apparent strength, but at a great cost to the organism, and a too frequent repetition of the draft must eventuate in physical bankruptcy. But, unfortunately, the very process which enables a man to make this display of seeming health and energy soon destroys his ability to correctly gauge his vital reserve, and the neurotic taint, sole inheritance of many, clamors more and more violently for the stimulant which shall make its unfortunate possessor the momentary peer of any man. The inception of the drink habit is the first step in the process of mental, moral, and physical suicide; and the physician has faulty judgment who recommends alcohol in any form.

The quality and composition of the alcohol, the peculiar beverage, constitute an eminently variable factor in the kind and quality of the degenerative changes induced.

Alcohol is not a food, but a poison, an arrester of normal metamorphosis. It never assists in building up tissue. It is fallacious to suppose that even small doses are not injurious, even small it diminishes vital power, renders the user unfit for the struggle of life. Its direct action is cell death, liver cirrhosis—heart and kidney disease exerts its most baneful influence on vital organs—paralyzes nerves, deranges all functions, spoils temper, shortens life.

In all persons addicted to the use of alcohol, the brain becomes indurated and anemic, and persistent insomnia sets in. A very satisfactory prescription to give in all cases of acute alcoholism is the following, which meets nicely all the indications: Passiflora, ozonized, two ounces; one ounce tincture capsicum; half an ounce of green root tincture gelsemium; half an ounce of chloral hydrate, and the same quantity of bromide of potassa. Mix, administer in small doses. Note effects, and continue, guided by indications and susceptibility. Shortly after taking a few doses, patient becomes very quiet and falls into a restful sleep, which usually lasts a considerable time. As soon as he wakes up, the prescription can be again continued, as it is of special value in all cases of cerebral anæmia, regardless of cause. Small and oft-repeated doses are best in making an inroad upon the pathological condition. As soon as the mania passes off, give kephalin and oats, administered in the form of granules, one thrice daily. Owing to their selective affinity for the nerve cells of man, have proved of inestimable value.

The use of alcohol in the parents arrests normal metamorphosis, and racial progress; if it does not create deaf-mutism, idiocy in the offspring; it gives a tendency, an impetus to neurotic affections, nerve disease of a brain type.

One of the numerous actions of alcohol is to increase the serum of the blood, which hinders the growth of germs and has a direct inhibitory action upon all bacteria; and this is dependent upon the quantity and quality of the albumin in it. It is the main factor, the salts only serving to keep it in good condition.

Germs in the blood of an inebriate are never active, but as a rule seek privacy in his liver, spleen and marrow of bones.

The administration of the thyroid extract to the drunkard is a failure, but give it to his feeble-minded, deformed, idiotic, deaf-mute, myxœdematous offspring, its use is invariably attended with a perfect restoration to health.

ALCOHOL A POISON.—Neurologists agree that the habitual use of alcohol in its various forms is the chief cause in the production of nervous diseases, such as neuralgia, neuritis, epilepsy, spinal sclerosis, idiocy, insanity. The constant use of whisky, brandy, wine, beer or other spirituous beverages, causes first a chronic congestion and irritability of all the organs, followed by inflammatory thickening and gradual loss of function. Even the moderate drinker cannot wholly escape. A single

daily glass of whisky taken for some years will, as a man grows older, bring about a renal and vesical irritability with prostatic congestion, which might have been avoided by total abstinence. It is a mistake to suppose that as a man ages he must necessarily suffer from too frequent and difficult micturition. Nine times out of ten the trouble is due to the habitual, if temperate, use of alcoholic liquors.

The evil effects of alcoholic drinks are chiefly manifested in the nervous system and the kidneys, although every tissue in the body is more or less injured. It has been figured that, if the use of alcohol in the form of artificial stimulants were entirely abandoned, the life of the race would advance at least thirty years.

There is no especial benefit to be derived from even the medicinal use of alcohol which can counteract its disadvantages. We have other stimulants, such as nitroglycerin, strychnia, atropia, capsicum, etc., which give the desired results and can be discontinued at our pleasure. Alcohol is not a necessity for old people. It may warm them up and increase appetite temporarily, but there are other drugs which will do the same thing, and in the long run alcohol makes the condition of the aged less tolerable.

Alcohol is not a necessity. It is not a desirable remedy. It is chiefly responsible for the physical degeneracy of the race. Its use often develops an appetite which, in many persons, becomes an insatiable craving. Its place in our materia medica is readily taken by other less dangerous drugs, and the physicain has no legitimate excuse to prescribe alcoholic stimulants. Not only should he taboo the use of alcohol, but he should exert himself to educate people concerning the irremediable physical damage which it causes. Most men are willing to do right, once they are made to clearly see it, and it is part of the physician's duty to show them the vital importance of abstinence.

Alcohol should never be used in medicine except as a medium to hold drugs in solution. It is the best solvent yet known for the active principles of plant remedies, and medicated tablets do not give the same satisfactory results obtained from fluid preparations, but the amount of alcohol thus consumed is so small and so soon discontinued, it produces no appreciable ill effect.

While we do not believe that there is ever a real need for the use of alcoholic stimulants, yet, we understand that prohibition

will never be successful in abolishing alcohol. People must first be *convinced* that it is a curse to them and to posterity; then and then only will they let it alone.

1. Alcohol acts primarily on the nerve cells, changing their granular matter, breaking up their nutrition and changing their dynamic force.

2. This action is followed by contraction of the dentrites, swelling and atrophy of these fibres, also shrinking of cell walls, as in fatigue, and coalescing and disappearance of the granular matter of protoplasm.

3. The special injury from alcohol seems to be on protoplasm and terminal fibres of nerve trunks. The irritation and inflammation of the nerve walls and fibres ending in slorosis are common.

4. Alcohol acts on the leukocytes of the blood, checking their activity, and destroying their function. These are driven in masses by the increasing rapidity of the heart, and become blocked up in the capillaries, forming centres of obstruction and injury.

5. The use of alcohol is found to be followed by diminution of the carbon dioxide and all waste elimination, with a marked sensorial palsy of the senses, and a slowing up of all the mental operations. These are the results of measurements with instruments of precision, and cannot be mistaken.

6. The action of alcohol in the light of modern research differs widely from the theories and current beliefs of the day.

ALKALI.—A class of chemical substances which are recognized by the following properties: They unite with acids with avidity, thus forming salts; they do not turn litmus blue into red, but will change reddened litmus back to its former color. Most of them have acrid, caustic properties. The most important alkalies used in medicine are caustic soda and potash, with their carbonates, bicarbonates, acetates, and citrates; ammonia, and magnesia, with their numerous preparations. Taken internally, they have the power of checking alkaline secretions, and stimulating or increasing acid secretions. They produce their effect either indirectly through the blood, or directly by their action on the mucous membranes. When used to counteract the acidity of the contents of the stomach, they receive the name *antacids*.—Their constant use is injurious.

ALKALOIDS.—Certain chemical bodies, active principles extracted from vegetable substances, which form salts when combined with acids. They are generally crystalline.

Alkaloids, and their salts, are the most powerful medicinal agents we possess with which to combat morbid action, as the smallest fraction of a grain taken internally, or applied locally, produces marked physiological results.

They are all violent poisons, sparingly soluble in water, but more so in dilute acids and alcohol.

Alkaloids, animal, from decomposing tissue, cadaveric, are even more deadly poisons than those extracted from the vegetable kingdom. Some physicians claim that all the virtue of a drug resides in its alkaloid; others that the crude drug contains its real medicinal properties. Both are right. The crude drug and the alkaloid have different indications, and cannot be successfully exchanged.

Take cinchona—Peruvian bark—for example. A tincture, or infusion of this bark, is the finest all-round tonic in the materia medica, but its antiperiodic powers are feeble. On the other hand, quinine—the alkaloid of cinchona—is a powerful antiperiodic, but an inferior tonic.

Opium is another illustration of the variance between alkaloids and the crude drug. The combination of tinctures, opium and ipecac, is a much better diaphoretic than morphia and ipecac, although morphia acts more quickly as a pain-relieving agent. Apomorphia is another derivative of opium, having a distinctive field of its own, widely different from both morphia and opium.

Nux vomica and strychnia cannot be used interchangeably without a loss of some of the subtlest properties of the drug. Tincture of nux vomica gives most satisfaction in atonic conditions of the digestive organs, while strychnine exerts its influence upon respiration and the cerebrospinal system generally. erally.

Aletris is the best remedy known in the treatment of female troubles, but aletrin has proved disappointing. Neither does gelsemin give the prompt and decided effects produced by a good green root tincture of gelsemium.

ALIMENTATION.—The stomach, with its thirty-two feet of intestines, is an evolutional body. Man is in a great measure what his digestive organism makes him, as this has much to do with the development of both mind and body.

Adulterated food, the origin, growth and use of which is doing much to depreciate the modern man, was unknown to our forefathers. Primitive man was strong, full of vital power, commanding in stature, and lived to a good old age, untroubled by tuberculosis, appendicitis, nervous prostration, toothache, headache, locomotor-ataxia, and a thousand other ills which shorten his life to-day. Every indication goes to show that while the race has been gradually advancing in knowledge and experience, it has just as surely been degenerating physically.

It is generally admitted that all the tissues of the body are elaborated from food eaten, and it is well known that for the past one hundred years our people do not eat the proper kind of food to make the best brain and blood. They are ignorant of nutrition and assimilation; they have cultivated and created abnormal tastes; demoralized natural instincts.

Intellect is a cerebral secretion; it is the function of the brain to secrete it. The activity of the secretion depends upon the soundness of the organ and the character of the blood that supplies it; the quality of the blood is determined by the food eaten, the nature and extent of its assimilation. In other words, a man is what his stomach makes him. Certain foods are introduced; from these tissues are manufactured. If the nutrition is bad, mal-assimilation; his body is full of ptomains; his brain secretes an inferior quality of mind, and he transmits both a physical and mental constitution weaker than his own. If he does not eat enough, if the food is not nutritious, does not supply the proper elements, he may become anemic, impoverished in brain and blood.

Food either excessively stimulates, or, in excess, modifies character. Animal food gives rise to a dangerous accumulation of uric acid in the body.

Appetite, food, digestion, modifies races, as we see in the Anglo-Saxon, on his diet, an aggressive race; in the Mongolian, on his rice diet, with lack of energy, enterprise.

Let us, by the use of good food, provide an inheritance of blood and brain for the coming race; better conditions for the whole human family by recognizing the evolutional power of the stomach.

Diet in dyspepsia and indigestion should be limited only temporarily or to a slight degree. It is proper enough to forbid such beverages as tea and coffee, which are positively, though mildly toxic, and such achievements of culinary art as cakes, pastry and heavy vegetables, which scarcely deserve the

name of food. But almost all patients need some warm beverage, fruit, sugar, a variety of meats, breadstuffs, and concentrated vegetable nourisment.

Chocolate with milk, cocoa chips, or some of the cereal substitutes for coffee may be allowed as beverages.

As to fruits, a good general rule is to forbid the patient to swallow anything of the nature of skin, core, or seed—with the possible exception of grapes, which are not palatable if the outer sweet coating is penetrated—but to allow a moderate quantity of the pulp or juice of any fruit desired, after meals.

In the selection of meats, we naturally turn first to beef, but idiosyncrasies must be respected. Some persons relish lamb, others poultry, a few even pork, better than beef. In conditions of true subacidity—the common cause or result of almost all cases of dyspepsia, whether organic or functional—there is at least a theoretical indication for sodium chloride and some antiseptic, which may be fulfilled by giving salted and smoked meats. Ham—crisp, not soggy—salt pork, raw salt codfish, perhaps slightly toasted, halibut, etc., may be proper food, though not so quickly digested as fresh meats.

It is wise, whenever the patient is well enough to have his impressions and experiences considered, to ask him as to likes and dislikes, to be guided by his appetites and by his antipathies, to explain what foods he may take and why he may not take others, yet always to leave as wide a choice as possible, and even if the staple must remain the same, to vary the flavor from one meal to the next.

AMYL NITRITE.—Two to five drops inhaled is a powerful cardiac stimulant, reducing the blood pressure, by dilating the blood-vessels, increasing the heart's action. Its use affords instantaneous relief in that terrible, agonizing spasm of the heart known as agina pectoris. It is also frequently of great efficacy in epilepsy, asthma, seasickness, convulsions, headache, gout.

The *nitrite* of sodium has the same action—dilates all the blood-vessels, relieves the heart.

Nitrite of glycerin has precisely the same properties, and in the form of a suppository gives immediate and wonderful relief in headache, epilepsy, asthma, seasickness, convulsions.

ALIMENTARY CANAL.—The intestinal tract is the habitat of an incredible number of bacteria and fungi, elab-

orated in the process of food disintegration, which, if there be a passage of the bowels every twenty-four hours, no untoward result takes place, but if there be retention over that period functional disturbance of the intestines is excited by the toxic products present, and by and by these toxins begin to affect the nervous system.

Habitual constipation, with its prodigious growth of germs and toxins, is liable to give rise to headache, insomnia, hallucinations, and a certain form of insanity is the direct outcome of the absorption of those poisons.

A retention, therefore, of the contents of the bowels gives rise to auto-intoxication and grave central nervous trouble.

This is especially true if there be any pathogenic microbes in the blood, such as tubercle, syphilis, and cancer.

If there exists either temporary or habitual inertia of the intestines, it should be promptly overcome by some remedy that will destroy the bacteria, neutralize their toxins, increase peristaltic action, at the same time strengthen and vitalize the bowels.

This remedy we have in an extract prepared from the kola nut, which is an invigorator of the nervous system, imparting special tonicity to the bowels.

The practice of prescribing glycerin, either orally or by the rectum in suppository form, is a grave mistake, as the dail use of glycerin exhausts both the mucous and serous coats of the bowels, and is productive of cancer.

The kola nut extract, paste or lozenge, is the best remedy we have for habitual constipation. No other therapeutic agent can compare with it.

ANIMAL EXTRACTS.—Of all the animal extracts, there are three never-failing in their action, that is, the ozonized extract of the thyroid gland of the lamb, kephalin and c. p. solution of spermin—all others are of doubtful utility.

The thyroid extract favors growth, development, perfection in construction, and repair; whereas the c. p. solution of spermin possesses an elective action upon the nutrition of the nervous system and is of the utmost efficacy in all forms of nervous exhaustion. The vitality which it increases, animates into healthy activity, accelerates all vital functions and even stays the sclerosis of ataxia.

Administered in all diseases of the nervous system, the afflicted individual soon complains of less vertigo, headache and

insomnia; less muscular and mental fatigue, or rather it eradicates neurasthenia.

Administered in diabetes, the general condition improves rapidly, the quantity of glucose diminishes, often disappears, the general health greatly benefited.

Anemia, chlorosis, chronic gout and rheumatism, pulmonary, tuberculosis, senility are greatly benefited by its fertilization of the central nervous system. Its action is unequal in all cases of impotency and sterility.

Kephalin, as a vital constructor, is a powerful remedy for toning up the brain and preventing senility.

In the hands of a careful practitioner, a judicious administration of these two extracts will promote a higher type of manhood and the cure of very many nervous diseases.

ANTIDOTES.—Medicines which either relieve or counteract or annihilate the symptoms produced by poisons. They may be *chemical,* either counteracting, or neutralizing, or altering the nature of the poison, forming a harmless compound with it; or *physiological,* wiping out its physiological action; or *vital,* stamping out the poison, in the progress of morbid action.

ALOPECTA.—Baldness more or less complete. The microscope shows that the hair is developed from the skin, and may be regarded (with the nails) as appendages to it. Every hair consists of two parts, a root and shaft. The shaft is cylindrical and is covered by an outer layer of overlapping scales, which project over each other, like slates on a roof, the projecting edges looking upwards. The main substance of the hair consists of fibres, or elongated cells, packed closely together, whilst in the coarser hairs of the body the centre is occupied by the medulla, or pith, which is made up of small angular cells, granules of fat, and coloring matter. The root of the hair swells into a knob, and is received in a recess in the skin which is called a *hair-follicle.* The hair-follicles consist of two coats, an outer or dermic coat, continuous with the deep layers of the skin, and an inner, which is continuous with the superficial layers of the skin, and is called the root-sheath. When the hair is pulled out, the *root-sheath* comes away with it—hence its name. The outer coat is made up of three layers: (*a*) formed of connective tissue, blood-vessels, and nerves; (*b*) corpuscles in a fibrous matrix; (*c*) an inner homogeneous membrane. The inner coat or root-sheath has two layers, the inner

and outer root-sheath. The outer of these is made up of large cells and is thicker than the other; it corresponds to the deepest layer of the epidermis (*rete mucosum*). The inner root-sheath corresponds to the outer horny layer of the skin. The bulbous root of the hair fits on to a papilla. The papilla is at the bottom of the bulb. In addition each hair has a small muscle which connects the deep skin with the root of the hair. When this muscle contracts from cold, fright, or other causes, it gives rise to "goose-skin," or makes the hair "stand on end." It may also help in the excretion of sebaceous matter. In connection with each hair-follicle is a cluster of sacculated glands, which secrete fatty matters, and opens into the follicle by a small canal or duct. These are the sebaceous glands. The fatty matter they secrete lubricates the hairs. Occasionally, from various causes, the duct gets closed, and the sebaceous matter collects in the gland, thus enlarging it, and forming a sebaceous tumor.

With regard to the chemical composition of hair. It is composed of albuminous and nitrogenous complex substances (keratin, etc.), and usually contains sulphur, which is said to be present in larger quantities in red hair. When burnt, the ash contains oxide of iron and manganese. The ash of white hair contains phosphate of magnesium and alumina. The hair is more resistant of decay than any tissue in the body. They may be an excessive growth, or a deficiency, or a falling off.

Alopecia may be divided into four groups, *atrophic* or *senile; structural; pigmentary; parasitic.*

1. SENILE OR ATROPHIC.—Is not confined to the aged, but is too frequently met with among young men, masturbators, guilty of sexual excesses, suffering from spermatorrhea, the hair nutrition is drained off. It is often attributed to mental exertion, strain, worry, fret, wearing light hats.

2. STRUCTURAL.—A perversion of the nutritive process going on in the hair, due to the presence of microbes in the blood and their toxins in the hair-follicles; the microbes of typhoid fever, the bacillus of syphilis and tubercle are most toxical to their nutrition and growth. Usually it is not permanent; after recovery or elimination of the poison, the hair grows again.

3. PIGMENTARY.—Under this head alopecia areata is classed as due to nervous diseases, in which the root is atrophied and bulb absent.

4. PARASITE.—A peculiar fungus often attacks the hair, gases form with its bulbs and sheath and the hair ruptures—in other cases the fungus attaches itself to the hair and unsheaths it, causes it to become knotty. Tinea induces degenerative changes.

The general treatment of alopecia in all its different forms, to place the patient upon a course of alteratives, tonics, local stimulants, and a diet calculated to promote the nourishment of the hair. The best alteratives are comp. saxifraga; ozone tablets; periodate aurum. As tonics, comp. matricaria; kephalin, oats. As local stimulants one of the following hair lotions: Ozone Hair Restorer, Ozone Golden Tonic, etc.

A very generous diet, especially oatmeal, which seems to have a remarkable influence in promoting the nutrition of the hair.

ALETRIS FARINOSA.—The root of the *Aletris farinosa,* or star-grass, is a uterine tonic and restorative, and of unexcelled value in amenorrhea, dysmenorrhea and menorrhagia, intrauterine catarrh, sterility, ulceration of neck of uterus; prevents miscarriage, renders labor painless, mitigates all the suffering at change of life. It is a remedy of priceless value to all ladies whose uterine system is dilapidated, and at the climacteric period of life.

PREPARATION AND DOSES.—A wine, prepared from the recently coarsely ground root is the most eligible and definite preparation, in doses of one or two tablespoonfuls every three hours, or as indicated.

All other preparations are worthless.

So many and varied are the causes which give rise either to inertia, or weakness, or relaxation of the nerves and muscular fibres of the uterus, that there is in some cases a perfect inability to contract after labor has terminated.

Imperfect contraction of the uterus in and during parturition is the main factor in the production of septicæmia so called, but properly speaking the evolution of the microbe of puerperal fever.

A devitalized or relaxed uterus, then, is the common predisposing cause of microbic evolution—self-infection, as it favors the formation of clots in the uterus. The muscular fibres have not imparted to them the necessary nerve stimulant; they do not contract, as they should; they leave the mouths of the uterine sinuses open; the denuded placental site, instead of

being coated over with healthy lymph, is but a mass of deadly germs.

Metria, then, or puerperal septicæmia, is a preventable affection by simply keeping a thoroughly vitalized uterus. This is indispensable in all child-bearing women—they should see to it, that its vital integrity is in no way impaired. Every physician who has prescribed the wine of the *Aletris farinosa* asserts that it is the greatest uterine restorative in the materia medica.

ALUMEN.—Alum, astringent and bactericide. Useful in painter's colic, optthalmia, leukorrhea, etc.

Two drams of alum boiled in a pint of milk, strained, excellent eye wash. White of egg beat up in alum till it coagulates, a good remedy in inflammation of the eye.

Various preserving fluids are made with alum; used by bakers to whiten their bread; it destroys the phosphates in the flour, hence the increase of rickets and premature loss of teeth from eating bakers' bread; burnt alum useful to destroy exuberant granulations. The sulphate powerfully antiseptic and astringent.

ALUMINUM (*Aceto-Tartrate*).—Dose: Local; a teaspoonful of a fifty per cent solution to teaspoonful of water once and repeat. An antiseptic of great value, and the remedy occupies a prominent position in the cure of ozæna. A weak solution for syringing the nose. Its action is rapid and safe. In laryngeal phthisis it may be used by a vaporizer with great success. A three per cent solution of acetate of alumina is a powerful germicide and disinfectant. It is greatly to be preferred to any other agent in surgical practice as it is efficient and free from all objections. It is inodorous, and it should be diluted with from two to five times its volume of water when used as an injection or by irrigation. It promptly destroys all disease germs on foul or gangrenous sores, and is one of the best antiseptic injections in puerperal septicæmia. Useful in some skin affections.

AMAUROSIS. (*Blindness*).—One of the great misfortunes of the present age is impaired vision, which is becoming excessively common. Many cases are due to infantile ophthalmia, some to the purulent form ever present in all large schools; others to the abnormal methods of teaching, which

first give rise to myopia, then to impaired vision. In more advanced life, masturbation in both sexes, draining the nervo-vital fluid. Insanitary condition and deleterious trades are hurtful to healthy vision, also the toxins of disease germs.

It must ever be remembered that the eye is but an optical instrument through which the brain sees the external, and there are numerous conditions always existing which render the cerebrum inoperative, as anemia, congestion, poisons, reflex states, white softening, so that in the treatment of all cases of amaurosis a division must be made, conforming to one or other of the five causes that give rise to it.

Loss of sight, at least what is termed amaurosis, more or less complete, then, is always due to some affection of the optic nerve, or of the brain, not to any lesion in the eye.

IF IT BE DUE TO ANEMIA.—The most common causes of a want or imperfect vision from impoverished or deficiency of blood in the brain are hemorrhages, acute chronic diseases, long-continued lactation, imperfect nutrition, meagre or bad food.

Removal of causes, generous diet, give abundance of fresh air, sunlight, rest, every constructive agent that is obtainable.

Matricaria before meals; protonuclein and tonics.

We have found the following very efficacious: Hydrastine and quinine sulphate; iron and hydrogen, of each one grain; extract of nux vomica, one-quarter of a grain. Mix; make one pill, which amount should be given three times a day.

IF DUE TO CONGESTION.—If from any cause there be a determination of blood to the brain, sufficient to obscure vision, the treatment must consist of rest in bed, head and shoulders elevated; cloths wrung out of hot water to the head; rollers saturated with mustard applied from toes to the knee; dry cups to nape of neck and shoulders, over them a guaiacol plaster. Adminster veratrum viride a few drops added to water, every few minutes, till the pulse is at sixty, then at intervals of three hours.

Causes must be removed, and then place patient on either a solution of spermin or kephalin granules to restore the integrity of the brain.

IF IT BE DUE TO REFLEX CAUSES, as we meet with frequently in the young, whose reflex centre is highly impressible, and the fact that the fibres of the optic nerve originate in the cervical portion of the spinal cord and pass through the medulla oblongata, renders the individual susceptible to impaired vision

from worms, which should be promptly removed; from masturbation, which must be abandoned; from gastric catarrh, the sarcinæ must be annihilated; from gall stones, which should be disintegrated by the administration of olive oil and matricaria.

IF IT BE DUE TO THE ACTION OF POISONS OR TOXINS.

We must ever remember that nearly all alkaloid remedies are cerebral poisons. They are often prescribed, often injudiciously administered in morbid conditions, too frequently acting most disastrously on brain and optic nerve, such as atropia, quinine, nicotine, etc., etc.

Tobacco, although a sedative in itself, its alkaloidal principle, *nicotine,* is a cerebral irritant, and its habitual or excessive use interferes with the vasomotor centres of the brain to such an extent that the vessels fail to adjust themselves to a normal condition.

The toxins of all disease-germs affect the brain, and with it the optic nerve. We witness their action in syphilis, diabetes, typhoid, in all microbial diseases. It may come on suddenly or gradually, giving rise to obscurity of vision.

The toxin of measles often induces amaurosis, which is speedily relieved by an emetic.

An excess of uric acid in the blood is undoubtedly the source of much of the blindness of the present age.

IF DUE TO WHITE SOFTENING OF THE BRAIN.

Defective vision, intellectual apathy are not always due to masturbation and excesses. Neither can every case be traced to the uric acid diathesis, nor to the toxins of unrecognized disease-germs in the blood. A question which should receive very serious consideration in every case of blindness is the influence of the hydra-headed microbe syphilis as a factor in producing atrophy of the optic nerve and degenerative changes in the brain itself. If this be suspected, five grains of sulphate of quinine with fifteen grains of iodide of potassium, both in solution, thrice daily, together with stimulation over the origin of the optic nerve in the medulla oblongata, will have a most beneficial action on the case. If this plan of treatment fail, then such a course as the following may be adopted: Rest, change of scene, most nutritious diet, bathing twice daily, followed each time by one or two hours' massage by a highly vitalized attendant; continued stimulation over nape of neck; then try thyroid extract or protonuclein, matricaria before meals, glycerite of kephalin after eating, for ten days. Then for the next ten days, change to avena sativa after eating.

Select the best of remedies to create a renewal of life in brain substance, as spermin, kephalin granules, etc.

For the preservation of milk and other food products formula is often used, which produces in the consumer atrophy of the optic nerve, irreparable blindness.

UREMIC AMAUROSIS is caused by anemia of the brain, the result of edema of the brain tissue, due to the circulation of urea in the blood. The loss of vision is often sudden and complete; in other cases slight, but associated with a group of symptoms incidental to the uric acid diathesis. In the early stages there is no intraocular change, but later on edema of the retina, serous infiltration with retinal separation and amaurosis. The ozonized uric acid solvent in alternation with the compound tincture of matricaria are most effective in ridding the system of this poison. The dose of the uric acid solvent should be such as will operate very slightly on the bowels.

AMBROSIA ORIENTALIS.—This remedy has now been brought to the attention of our profession, thoroughly tested in a large number of cases, with unparalleled success.

The general conclusions reached in all cases are: That it is an aphrodisiac of priceless value; an invigorator of great efficacy; a tonic to every tissue of the body.

It is safe to say that if the demand for a remedy be a criterion of its intrinsic worth, then this one is away ahead of every known remedy.

True, for functional impotency, it exerts a peculiar specific, vitalizing effect on the function of the reproductive organs of both sexes; for physical and nervous exhaustion, it is a great rebuilder of vital force; for producing a change, a revitalization of nerve cells, it is invaluable in effacing all habits, such as tobacco, opium, alcohol, etc., from the brain—not only removes them, but effects a radical change for the betterment of the race, reinvigoration of the entire body, a higher type of being.

As a medicament in chronic spinal disease, it exerts a most salutary bracing influence.

In uncomplicated cases of impotency, it is never-failing, in re-awaking the lethargic or dormant sexual function; but if there be complications, organic changes in the brain and spinal cord; changes which involve diabetes, enlarged prostate, stricture, diseased bladder, toxins in the blood—these, or whatever they may be, must be removed before the action of the remedy is visible.

When sexually drained out or exhausted men are placed upon this remedy, the first sign of improvement is increased strength in micturition, dribbling and all leakages cease; erections improve, become stronger and lasting, a very rapid increase in vigor takes place, and continues, until the object of treatment is obtained.

One peculiar action of the comp. tinct. ambrosia is that it is cumulative, the longer it is continued, the better its action becomes, never loses its effect, but keeps adding strength and life to the entire body.

The dose of the remedy to begin with should be half a teaspoonful thrice daily, increased during the first week to a teaspoonful as often.

The pill or tablet form, one only thrice daily. A suppository is best used on retiring to bed, but in cases of complete nervous bankruptcy they may be used three times during the day provided the patient lies down after their insertion. The bougie should be used only every other night.

AMENORRHEA.—An absence of the menstrual flow. It is met with under two forms:

1. RETENTION OF MENSES.—This may depend on a variety of congenital conditions, as arrested development, organic affections, malformations, such as absence or atrophy of ovaries, uterus. Those organs may be present, but vagina may be absent, or suffer occlusion, so that if the menses are secreted they cannot find their way out. It may depends on some disease of brain, spinal cord, or blood. A large percentage of such cases can be rectified either with medical treatment or some surgical proceeding.

2. SUPPRESSION OF MENSES.—This is the most common form of amenorrhea. The flow having appeared, been properly established, for a longer or shorter time, has, from some cause, become suddenly arrested.

The front part of the uterus being very profusely supplied with branches of the sympathetic nerve in highly-civilized females, the menses, while on, are liable to cease or stop from violent emotion, grief, anxiety, or from cold, damp, exposure.

Instead of ceasing suddenly, as in those cases, it may disappear gradually, returning at the proper time, but becoming less and less, and then entirely stopping. It is liable to cease in acute and chronic disease, as in fevers, blood-disease, especially anemia, cancer, tuberlosis, albuminuria. In all cases the

greatest care should be observed, so as not to overlook pregnancy. The suppression is always attended with some constitutional disturbance; great, if sudden; not so well marked, if slow and gradual.

Treatment.—If the case is seen at once during an attack of acute suppression, there should be an effort made to re-establish the flow, by alcoholic vapor-bath, with hot mustard foot-bath; put to bed between blankets, with hot bricks to feet, and dry heat to vulva or over bladder, consisting of baked bran, or hops, or chamomile flowers, in bags. Aconite, with compound tincture of serpentaria, administered internally, with infusion of pennyroyal; no cold drinks nor ice. If several days have elapsed, it is useless to try the above, or any other means, but begin at once and prepare patient for next period. Bowels should be regulated, clothing warm flannel round waist and hips, warm foot- and hip-baths, nourishing food. If there is any special disease it should be attended to, especially anemia, with acetate of iron three times daily, with cinchona and mineral acids; and about a week before the expected period, begin with the compound betin pill, one or two three times a day; and if the case is stubborn, put mustard plasters on the nipples for a short time before bedtime, for one or two nights. The compound betin pills excel all drugs in their mildness, efficacy, and certainty; they arouse the inert, sluggish uterus into active life, restore its natural movements, and impart tone and vigor; they are our best emmenagogues, and excel all other drugs in their prompt action. They supersede entirely those old and deleterious drugs, such as cotton-root, savin, aloes, ergot. As soon as the flow is established they are to be stopped, and resumed the following month about seven days before the expected period. Ladies who suffer from habitual suppression, or where the flow is scanty, or who dread early suppression, can maintain menstrual activity for a long length of years, and thus keep the freshness of youth in their nervous system and skin indefinitely.

Vicarious menstruation may occur as a form of amenorrhea: that is, the menses may be suppressed at the vaginal orifice, but are thrown off by the nose, mouth, eyes, ears, or blood-stains by the skin, by ulcers or by necrosis, if present, or by odors about umbilicus, or eruptions.

The real cause of vicarious menstruation is either inertia or atrophy of the uterus; so great that the uterine wave is abolished or abrogated. The cure consists in stimulating the

uterus with hip-baths, horseback exercise, or moderate walking exercises, the betin pill, narcotics, iron, pulsatilla, cinchona, and most nourishing food.

THE AMIDO-BENZENE SERIES(C_6; H_3; N. H_2).—There are many reasons why coal tar derivatives should not be prescribed by American physicians.

Every man, either born or dumped on American soil, becomes neurotic, suffers from cardiac failure or weakness. This is greatly aggravated by the use of tobacco, and breathing a highly oxygenized atmosphere, and a state of nervous tension which pervades the nation.

All coal tar derivatives are cardiac paralyzers. Their administration increases the mortality of every disease in which they are used.

The nervous system is made up of nerve cells, possessing a cylinder axis, with prolongation and protoplasmic processes, so that each nerve-cell is a minute reflex apparatus, with terminal fibril. The transmission of impulses of the gray matter is effected by contact, one cell with that of another. Now when antipyrin, exalgine, antikamnia, phenacetin, or any other of the numerous coal tar products are administered, these nerve cells are paralyzed. Pain may be instantaneously relieved, but the relief is too often that of death. To this class of drugs we owe the increased mortality in all diseases in which they are administered.

The comp. tincture of coal tar pessesses trustworthy and uniform therapeutical and pharmaceutical properties. It is prepared as follows: Make a saturated tincture of the powdered soap tree bark (quillaia) by maceration, adding coal tar, one to six parts of the tincture. The resultant product is a dark brown black tincture, a small quantity of it added to water forms a clear yellow emulsion. The color may vary according to the quality of the tar.

This tincture can be still improved by the addition of the peroxide of hydrogen. With or without this, it is very stimulating and germicidal. Prescribed as a wash by adding it to water, in variable strengths, its action is unexcelled in eczema, psoriasis, prurigo.

AMMONÆMIA.—The prolonged retention of urine in the bladder over a definite time results in its decomposition, in a change of its constituent elements, the most prominent of which

are a fungus and carbonate of ammonia, which are taken up into the circulation, producing a special form of blood-poisoning. The retention of the urea and its conversion into carbonate of ammonia give rise to cystitis, a catarrhal and dysenteric state of the bowels, in which a greenish, alkaline yellow fluid is passed from the bowels, with abundant spores of the fungus.

The causes which give rise to this state of the fungous growth and decomposition are stricture, enlarged prostate, paralysis of atony of the bladder, pyelitis, sacculated kidney, cystitus, etc.

Old or young men, with enlarged prostates, are the victims of this malady.

It is an affection which cannot be mistaken, even by the most superficial observer: the retention of urine, or, if a dribbling, its ammoniacal odor, alkaline reaction, containing immense amounts of phosphates; the breath and skin are also highly ammoniacal. If no relief is afforded, there are rigors, vomiting, fever, with strong typhoid aspect; tongue dry, brown, shining; complexion sallow, dingy brown; headache; insomnia; and, as the blood becomes more crowded with the spores and carbonate of ammonia, insomnia is more persistent; restlessness gives rise to somnolence, lethargy, with low, muttering delirium, with the ammoniacal odor more intense.

The most important point in the treatment is the removal of the cause; but as atony of the bladder and enlarged prostate are the common causes, time is needed. The patient must have immediate relief, or death will ensue. Relief is best afforded by the introduction of a catheter and draining off every drop of the ammoniacal urine, subsequently injecting the bladder with a tepid germicidal solution of either boroglyceride or peroxide of hydrogen; if the latter, a few drops to the pint. This proceeding must be resorted to even when the patient seems to be sinking, because the moment the bladder is washed out a rapid improvement takes place.

The bladder must thus be emptied and washed out daily, and the patient placed upon the proper doses of either peroxide of hydrogen, or ozone water, or comp. oxygen, to neutralize the excess of ammonia present in the blood. Virginia stone crop operates well in alternation with the uric acid solvent; the pichi in that last compound operates in all cases most favorably; they should be used persistently. The enlarged prostate must be got rid of, and till that is effected the urine must be drawn

regularly off. I have found the following formula to be unexcelled to get rid of an enlarged prostate: thus, say about 7 P. M. insert one cocaine suppository; allow it to remain; before retiring wash out the rectum with about half-a-pint tepid solution of boroglyceride, which is to be passed off; as soon as that is effected, inject one tablespoonful of the following: Ozonized distillation of hamamelis, four drams; papoid, thirty-two grains. Mix.

This is to be permitted to remain over night. This mixture of ozonized hamamelis and papoid acts energetically upon the effused lymph which, in the process of chronic inflammation, has been effused into the interstitial structure of the prostate.

To be effective it must be applied as above. The cocain suppository produces anesthesia of the prostate—a state most favorable for the dissolution or absorption of lymph. Follow it in about two or three hours with the papoid mixture.

ANALIN OIL.—A germicide, which is very beneficial in many aural affections, especially in arresting inflammation and suppuration by dehydrating the parts to which it is applied. Its power of abstracting water from the tissues is quite considerable, and being a stable remedy, its effects are permanent. Equal parts of mullein and analin oil mixed is a very suitable preparation; dropped into the ear and left there in the usual way, once or twice daily, they have a marked effect in curing very many forms of deafness. It effects this by its remarkable power of penetration, its action as a solvent upon effused lymph upon the membrana tympanum, in softening all substances effused within the aural cavity, breaking them down by its power of dissolving fats and acids.

In ankylosis of joints, analin oil, added to either alcohol or concentrated ozone, or olive oil, has not only immense, deep, penetrating power, but has a solvent action. Analin oil is an excellent solvent for cocain, that with its power of penetration, its dehydrating property, renders it valuable.

ANAL FISSURE.—Cracks, lacerations, abrasions, fissures in and around the verge of the sphincter muscles of the rectum are usually caused by either constipation or worms, giving rise to spasmodic action of the muscles, or from laceration by hardened feces or foreign bodies.

It is usually associated with most excruciating pain in de-

fecation, pus, blood and innumerable bacteria being present. Under old methods extremely difficult to heal, but with modern remedies quite amenable to treatment. The bowels should be regulated with the kola-nut paste, about half a teaspoonful before retiring.

An excellent method to commence with is to wash the external parts night and morning with soap and water, and at the same time wash out the contents of the rectum with a warm solution of boroglyceride. As soon as passed insert a cocain suppository, in one hour subsequently a krameria suppository. Repeat this morning and night. During the day paint on or apply every three hours a small piece of the jelly of violets right into the fissure. This will kill every germ in it and cicatrization will be rapid.

The cocain suppository relaxes, anesthetizes the nerves of the sphincter. The krameria suppository contracts the fissure amazingly, the violet jelly eradicates every germ and promotes rapid healing.

I have tried cleansing the ulcer, using the same injection and suppositories, and dusting the fissure with formal-gelatin powder. The results were not nearly so satisfactory.

I have also tried a suppository made of periodate aurum; still even that was tardy in healing.

ANESTHETICS.—Anesthetics are a class of agents that are used by inhalation to blunt the sensibilities of the patient to pain, and thus prevent shocks, and obviate, or ward off to a very great extent, surgical fever, in all great operations. There are a great number of agents of this class; but three, viz., nitrous oxide gas, ether, and chloroform, are what may be termed safe and reliable.

Nitrous oxide gas is used solely for very short operations, as the opening of abscesses, making incisions, and extracting teeth—where anything can be done in a few seconds; for a prolonged use of the anesthetic is dangerous, and it should never be given more than once on one day, and not for several days afterwards. It is useless in operations of any magnitude.

Ether is a good anesthetic, from six or seven years of age up to sixty, because of its great safety, and the fact that it increases the heart's action.

Chloroform is best for children or elderly persons whose hearts are in good condition; but it must be watched, as it decreases the action of the heart.

The inhalation of ether by aged persons excites immense activity and congestion of the bronchial glands, so that it is very apt to prove fatal. It has the same effect in children, although they, as a rule, take any anesthetic well.

The process of anesthesia may be divided into three stages: the first being that of cerebral excitement, or loss of consciousness; the second, accompanied by loss of sensibility; and the third, by loss of motion. Beyond this it is unnecessary to go; it is the final stage—total paralysis of the nerve-centres. Generally speaking, the second stage is sufficient for most operations.

ANESTHESIA.—General anesthesia produced by inhaling either ether or chloroform, or nitrous oxide gas, or what is better, the A B C mixture—one part alcohol, two parts sulphuric ether, and three parts chloroform—can be prolonged indefinitely provided a hypodermic injection of one quarter of a grain sulphate of morphia be given either over the deltoid or at the nape of neck, at least for an hour, affording sufficient time for a major operation.

The above method is perfectly safe.

It is now proposed, for the purpose of local anesthesia, to inject a minute quantity of a one-half of one per cent solution of cocain hyperchlorate into the spinal canal, to paralyze the spinal accessory roots and ganglia, a proceeding which is by no means safe. Better by far to dissolve cocain in the concentrated ozone and apply, which produces anesthesia away down to deep-seated parts, even to the bone. The jelly of violets ranks next as a safe local anesthetic.

Anesthesia in parturition need not be general; sufficient if applied over the abdomen and lumbar portion of the spinal cord. If so applied, and ten or twelve obstetric cones be used, labor will be perfectly painless and no rigidty of the os uteri can exist.

Local anesthesia may be either induced by the ether or rigoline spray, or by applying for a few hours over the part to be operated on the ozonized jelly of violets.

As a local anesthetic, it is found to be as efficacious as cocain, with the decided advantage over that remedy that it never affects the respiration or mental faculties; besides it has no toxical properties, and is a powerful bactericide. It fills a place in the materia medica practically unoccupied by all other anesthetics. Jelly of violets is of immense utility in the cure of

some cancers. It often blights and arrests their growth, renders them painless, and in many cases causes their complete obliteration.

Invaluable in the treatment of all ulcers, all breaches of continuity, whether malignant, venereal or others. Excellent to arrest inflammatory action.

In toothache, extraction of teeth without pain, it operates like a charm.

It is non-poisonous, non-irritating, affords complete immunity to pain; when applied, its action is profound and prolonged; absolute freedom from pain for several hours is the rule when applied.

It is true many medicaments are now in use for the production of local anesthesia, besides the evanescent ether and rigoline. Very many of these have been introduced by the Germans from our own coal, and sent here to soothe the aches and pains of the Yankee, and at the same time paralyze his heart. In a very extensive clinical experience I have prescribed them all to their fullest extent, but none of them has served my purpose so well as the jelly of violets, a natural product without a rival as a means of allaying excruciating pain. Digesting all the advantages and disadvantages of the coal tar derivatives, heart-paralysis, and recent synthetical compounds, jelly of violets excels all; besides it is a germicide, non-toxic, prompt in action, penetrating deeply, arrests inflammatory action wherever it exists. It neither affects the heart nor disorders the nervous system.

It is a typical local anesthetic, and so highly antiseptic that it prevents fermentation and even putrefaction. Permanent solutions can be formed with it, and can be combined with other remedies which render it of great efficacy in many diseases, such as ulcers, chancres, and especially in cancer.

Painted on in its full strength, it will efface pain from twelve to twenty-four hours. Many successful cases of cancer of the stomach might be cited, in which the jelly in a papoid solution has effected brilliant results.

ANEMIA.—Is either a deficiency of red corpuscles or a shrinkage of them in size, or both, due either to defective assimilation, disease, hemorrhages, meagre or adulterated food, or want of sunlight, solitary confinement, deleterious trades, factory labor, breathing the vitiated air of tenements, improper nutrition, a true scarcity of elements necessary to maintain and restore the daily wants, to keep brain and muscle healthy.

The natural consequences of such, and of neglecting the fundamental laws of health, are a paleness or pallor of the skin and mucous membrane, soft muscles, lassitude, debility, feeble circulation, muscæ volitantes, aural vertigo, cardiac irritability, general coldness, albumin in urine.

Our remedies are rest in the recumbent posture, pure air, nourishing food, as raw eggs, juice of beef, sunlight, bathing, massage.

Select and push cinchona and mineral acids, comp. hypophosphites of lime, soda and iron, spermin, matricaria, coca; passiflora for an irritable heart; protonuclein.

PERNICIOUS ANEMIA is a fatal form which progressively advances to a fatal termination, yet it is difficult to assign a cause for the profound alteration which the blood undergoes, nor can its origin be detected.

Continued train of dyspeptic symptoms, diarrhea, protracted hemorrhages, incessant worry, excessive debility from excessive child-bearing—such like are reckoned as causes. It cannot originate without a cause, although the real cause is still unknown.

The blood presents changes, the red corpuscles being diminished, but there is no constant lesion of the blood-forming glands adequate to explain the steady and destructive impoverishment of the vital fluid. The structure of the spleen and lymphatic glands are not altered; neither is the pink marrow of bones, but fatty degeneration of the heart and inner coat of the large arteries can readily be detected. In an extensive clinical practice we have used abundance of fresh air, avoidance of all insanitary conditions, good nutritious food, rest and massage. The old routine remedies are not available to do good; ozonized phytolacca berry juice in small doses, alternated with comp. tincture matricaria, seem to be the most effective agents to save life and rid the system of such elements of degeneracy. These two remedies influence the vital centres in the medulla oblongata.

ANEURISM.—A pulsating tumor, synchronously with the action of the heart, communicating with an artery, formed by dilation or expansion of the coats of an artery through which the blood circulates. It may consist either of a dilatation of the entire three coats of a vessel, or of two or of one.

Its causes are numerous, as inherent weakness of organization; diseases of the vessels, such as calcareous degeneration, syphilis.

The exciting causes are straining, lifting, coughing, hoisting, jumping, running. A false aneurism is generally the result of mechanical violence, followed by extravasation of blood in the surrounding tissues.

Ligation of the artery on the cardiac side away from the tumor. The coagulation of the contents of the aneurism either by injecting a solution of carbolic acid or the insertion of needles attached to a battery, are extremely dangerous; better to enjoin perfect rest, administer digitalis to slow the heart's action; increase fibrin in the blood with an animalized diet, and administer either cinchona and mineral acids, or guaiacol mistura.

ANGINA PECTORIS.—Spasm of the heart muscle. Development or growth can be induced in any organ, in every tissue and gland in the human body, but this has a limit, a point, which if carried beyond an adequate nerve supply degenerative changes will set in. For example, a blacksmith may by arduous toil develop the muscles of the arm and side until there is not nerve supply sufficient, when fatty degeneration sets in. A lady with atrophy of the breasts may by bathing, massage and inunction of the saw palmetto ointment twice daily cause their normal size to be restored, but if she persists in the restorative process of enlargment beyond the original, degenerative changes set in. The penis, the testes, if shrunk to nothingness, can be restored by the use of the kephalin granules and protonuclein. Even the brain, the great sympathetic, may suffer a partial atrophy and recovery take place upon the use of the thyroid extract and avena sativa. The great sympathetic, whose branches cover the anterior portion of the heart, subject to every conceivable—either depressing or vitalizing—agencies in emotions, desires, affections, passions, under our present status of civilization. Overstimulation of the great sympathetic invariably gives rise to heart trouble, exhaustion, failure, followed by neuralgia, severe pain in the heart occurring in paroxysms, with numbness in the left arm; on seizure of pain the action of the heart-muscle is arrested by the induced spasm; fainting, collapse, pulse imperceptible at the wrist, suspended respiration. The duration of these symptoms may be a few minutes to some days.

The predisposing causes are conditions which favor depression of the grand sympathetic, especially its cardiac branches. It is a condition seldom if ever met with among the poor, its

victims being the rich, the eminent, the great. It attacks more wise men than fools. Great poverty of nerve force is present in every case; standard of vitality is lowered.

The exciting causes are the toxins of rheumatism and other disease germs, the lithiate of soda of gout, such heart-depressants as tobacco, tea, coffee.

A division is thus made, true and false; in the former organic disease of the heart is invariably found, whereas in the latter simply an enfeeblement, a neurotic vasomotorial condition—in the true the causes act directly, in the false mostly reflex.

The pain incidental to angina is one of intense mental anguish.

The occurrence of the seizures are most likely to take place when the electrical forces of the atmosphere are lowered.

If patient is seen during an attack place him in a comfortable position; abundance of fresh air; loose clothing; dry heat over breast. Endeavor to break spasm and relieve pain, which is intense. Select from drugs most easily procured either the nitrate of amyl by inhalation, an dthe nitroglycerin suppository; try lobelia, passiflora, aconite, chloroform or concentrated ozone over heart.

When paroxysm is completely broken keep mind and body quiescent; forbid all fret, worry, passion, all excesses, no sexual excitement under any consideration, and the use of tea, coffee, tobacco.

If no fatty degeneration of the heart muscles has taken place a curative treatment should be inaugurated. This requires rare tact and skill, but, generally speaking, we might state that guaiacol plasters should be kept on and off over the region of the heart for some months, just as the patient can with comfort bear it. Then scrutinize the case for causes; if the toxins of rheumatism and lithiate soda of gout, administer the *ozonized uric acid solvent;* if it be the toxins of malaria, give *concentrated tincture of kurchicin;* if the toxin of syphilis, the periodate aurum; if the toxin of epidemic influenza, concentrated tincture of kurchicine.

In all cases of angina pectoris the nitrite of sodium should be given independent of cause. It dilates the entire arterial system and relieves the heart.

In addition, keep stimulating the heart with a special cardiac vitalizer, selecting from the following list two of the best: Protonuclein, creatinin, thryroid extract, passiflora incarnata, digitalis, strophanthus, lily of the valley, cactus, spartein, adonin, quinine, nitrites, coca, kephalin, amyl.

Passiflora and creatinin, protonuclein and kephalin do admirable work in neuralgia of the heart; thyroid extract and quinine, coca and the nitrites are extremely efficacious.

A one per cent solution of nitroglycerin in one-drop doses, as indicated, has proved itself to be our best drug to overcome the paroxysms of angina pectoris where amyl nitrite has failed, and by exhibiting it in gradually increasing doses between the attacks the severity of the paroxysm is reduced. It has proved highly valuable in migraine, neuralgia of the fifth pair of cranial nerves, reflex vomiting, epilepsy, seasickness, gastralgia, hiccough, laryngismus stridulus, tetanus, hydrophobia, hepatic colic, spasmodic, uremic and cardiac asthma, simple and pernicious anemia, acute and chronic Bright's disease, puerperal and uremic convulsions.

In the late epidemic of scarlet fever in which interstitial nephritis was so common, suppression of urine and uremia so fatal, it rescued every patient from the jaws of death to whom it was adminstered.

These two winters past nearly all of our devitalized population have suffered from the microbe of epidemic influenza; without a thought as to its results our physicians have rushed to antipyrin and other coal tar derivatives, which have left a large portion of our people suffering from weak heart. To overcome this condition nitroglycerin is the remedy.

The special reasons for the good effects of nitroglycerin in weak heart are the following: (1) It lowers the vascular tension by dilating the arterioles; (2) it increases the rate of the heart's movements; (3) it lessens that irritability of the nervous system which finds expression in spasm, especially of the nervous system of organic life.

Under no plan of treatment have I seen so rapid and thorough improvement in the condition of the weak, the anemic, and the ill-nourished.

I prescribe the one per cent solution, beginning with one drop, and adding one drop at each dose until the characteristic effects are produced. The susceptibility to its action varies greatly. The amount required ranges from one to ten drops for the largest number. When the patient feels the least degree of the action (pain in the forehead and flushing of the face) the dose is sufficient, and that quantity should be continued, the intervals being from two to six hours, according to the character of the symptoms and the persistence of the effects. Light, nutritious food, generous to a fault; bathing, massage, rest.

ANILINE.—A substance which is obtained from coal tar. It is chemically a compound ammonia, and may be prepared by the action of nascent hydrogen on nitrobenzene. When first prepared it is a colorless liquid, but afterwards turns brown. The aniline dyes are obtained from aniline by oxidizing it.

Aniline dyes possess marked antiseptic properties, and have been used in surgery. Methyl-violet has been injected into sarcomata and other tumors, and appears to lessen the rapidity of their growth. When used as antiseptic lotions, the aniline preparations must be pure. Ethyl-violet may contain arsenic, and grave accidents have followed its use. Owing to their staining properties they are unlikely to come into much use as antiseptics. Aniline dyes are used in staining microscopic specimens.

ANISE.—Aniseed, the fruit of *Pimpinella anisum*. An *oil* is obtained by distillation, the dose of which is one to four drops on sugar. *Aniseed water* is made by distilling one pound of the fruit with a gallon of water. Its dose is one to two teaspoonfuls for a child one year old. *Essence of aniseed* is a mixture of the oil and rectified spirit (dose, 10 to 20 drops: for a child one year old, 3 drops). Aniseed is a carminative and antispasmodic—that is, it prevents griping and pain in the stomach.

Star-anise (or Chinese aniseed) is obtained from a different plant, has a star-like form, and possesses similar properties to ordinary aniseed.

ANKYLOSIS-ANCHILOSIS.—Term applied to a joint when it is fixed in position owing to adhesions or bony union between the bones forming the joint. It is a result of inflammation of the joint, and its commonest cause is rheumatism.

Treatment.—Surgical operation in some cases. In others, the patient should be given an anesthetic, and the joint then moved forcibly so as to break down the adhesions. These are the cases of cripples which are so often cured by the rough treatment of quacks, by faith-healing, hypnotism, fright, etc.

ANTAGONISM (Between Man and Microbes).—They are everywhere, in the air which we breathe, in the water which we drink, in the food which we swallow for nourishment; dust contains innumerable quantities of them; our garments are covered with them; our hair affords an

asylum for legions of these tiny creatures. It is idle to say that among the countless variety of microbes there are some good ones which are not harmful and do not engender maladies, for the most recent researches have demonstrated that there are some inoffensive microbes which can become very dangerous if they can manage to traverse several times in succession the animal organism. That is the truth. What is true, moreover, is that it has been proved beyond contradiction that microbes cause the most terrible maladies, those which decimate populations, like phthisis, the plague, cholera, typhoid fever, typhus, yellow fever, scarlatina, to mention only the best known and most murderous diseases.

When the part played by microbes began to be recognized, it was asked how organized forms of dimensions so small that it requires great enlargements of the microscope (enlargements of a thousand and fifteen hundred diameters) to distinguish their morphological characteristics can get the better of individuals of a height which, in comparison with the attacking force, is enormous. This question was answered by pointing out the incalculable number of the microbes and by recalling that the human body is but a considerable collection of microscopic elements, the cells, so that what was at first thought to be a war between a pigmy and a giant is, in fact, one between individuals of about the same size. By reason also of the extremely rapid multiplication of microbes, they soon find themselves sufficiently numerous to win the battle. This point of view has not lost its value, but to-day we know something more. It is not only and especially in the place where they are present that microbes exercise a melancholy influence over the organisms they invade.

The principal cause of their harmfulness is in the products of their life in the midst of the tissues. These products excreted by the microbes are, in truth, energetic poisons which, physically or chemically, provoke reactions in their surroundings, and which can cause profound alterations in the organ. It is not essentially necessary for the microbes to invade the entire organism and multiply there with rapidity in order that the poisonous manifestations due to their excretions shall be felt. Thus it is that the microbe of diphtheria, often located on the tonsils and throat, produces in the organism grave disorders in the veins, the joints, and other parts far away from the place where the microbe is encamped. There is, in a word, poisoning at a distance, which proves sufficiently the prepon-

derating part played by the poisons excreted by the microbes. This fact, of course, does not weaken the effect of their number, since it is very evident that the more abundant the producers of poisons are the greater the quantity of poison which will be produced.

All this being so, let us see how it comes about that we are able to resist the attacks of so many enemies, apart that is from all medical treatment. It is my duty, alongside of the very discouraging picture I have just sketched, without exaggerating anything, to place, with the same care to keep within the absolute limits of truth, a more comforting picture, pointing out the means with which we are naturally provided to repel invasion.

Suppose a legion of microbes which, coming from the outside, attacks us. Some fasten on the skin, others penetrate by the mouth or the nose. Before reaching us they have already encountered conditions which put them, in a certain measure, in a state of inferiority. The oxygen of the air and light are agents which injure the vitality of the microbes. From this fact results the elementary principle of hygiene to keep the apartments in which we live well aired, and to admit into them floods of light.

Having reached the skin, microbes find an efficacious barrier in the cells of the epidermis, of which those directly on the outside are horny, and thus in the best condition for not being traversed easily, and are, moreover, in a continual state of desquamation or scaling off. This may be called the physical defence of the epidermis. That is not all. The skin contains glands producing sweat and oily matter. These matters are eminently unfavorable for keeping up life in microbes. If some of them, however, availing themselves of the openings of these glands, get within and think that they have overcome the obstacles which prevent them from reaching the internal tissues which are the object of their travels, they are mistaken, for as soon as the glands work a little actively, in consequence of labor provoking perspiration or the active secretion of the oily matter, the microbes, borne on this current of secretion, find themselves promptly turned out of doors. Hence the efficaciousness, from a hygienic point of view, of care of the skin, of active perspiration, and the like.

Returning now to the microbes which have entered the open cavities, the mouth and nostrils (I do not speak of the ears, which can defend themselves by their epidermis and the secretion of wax), there also the surfaces are clothed with a mem-

brane formed of little cells not unlike the cells of the epidermis of the skin, and this membrane is constantly moistened with liquids (nasal mucus, saliva) which are not at all favorable to the development of the assailant. If he, continuing his march, manages to get into the œsophagus and to reach the stomach, he finds there conditions which are not good for his health in the shape of gastric secretions, such as chlorhydric, lactic, and other acids. This is so true that many microbes are absolutely incapable of getting through the stomach and penetrating the intestines, for they have been so battered and knocked about and their vitality has been so much lowered by their troubles on the road, that they end by being destroyed and even digested in the stomach.

It has been proved, however, that mucous surfaces are not always an obstacle to the penetration of the microbes, even when these surfaces are intact. Supposing the microbes manage to penetrate the tissues, there they meet with new obstacles; there they find, in the first place, what are called phagocytes, that is, cells which are eaters, or elements of the lymph, which show surprising activity, swallowing the microbes and digesting them. It should be remarked that these phagocytes are most abundant at threatened points. If, in spite of phagocytes, the microbes get into the blood, they have not won the battle. The serum of the blood has microbe-killing properties; the oxygen that is carried into the blood disagrees with many of the microbes, as carbonic acid does with others, and thus it is that the blood is rarely invaded by microbes in the course of the maladies they engender. Driven then from vessels which do not offer them a satisfactory field of culture, they can only take up their residence in the heart of the organs, and even there they meet with elements of resistance which are often efficacious, such as defensive proteins and other antitoxic substances produced by these organs.

To sum up, the human body is perfectly organized to resist the different phases of the microbes. This explains how it is that, in spite of their multitude and their bad temper, microbes have not yet annihilated the human race.

It must be kept in mind, nevertheless, that the success of the resistance depends upon the quality of the tissue into which the vigilant and ill-tempered microbe strives to penetrate. I have told how things go on when the organism is healthy. If, however, before the microbe reaches the haven where he would be, the general functions of the system are troubled, either

hereditarily or by reason of an acquired abnormal state, such as gout, diabetes, visceral, pulmonary, or hepatic inflammation (to speak of a few states only), the conditions of resistance are changed, for these, by vitiating the regular functions of the organs, affect the vitality of the tissues which are particularly the phagocytic elements. The microbes are destroyed in much smaller quantities, and they no longer find antitoxic products which ought normally to oppose their development and neutralize the effects of their own poisons. In a word, they find a field of culture in which they cannot fail to flourish and multiply.

The consequences are immediate and fatal. The infection of the tissues begins; the poisons produced by the microbes are spread through the organisms. Such is the mechanism of the origin of diseases called infectious.

From all this it is plain that everything which enfeebles our vitality is a dangerous condition, and exposes us to invasion. For that it is not necessary that there be deep injuries, affecting this or that organ. The most varied influence can come in play to create in us a state of inferiority, which will oblige us to surrender to our foe. Privations, great fatigue, the ingestion into the system of toxic substances, intoxication by lead or alcohol, atmospheric conditions, excessive heat, intense cold, are so many elements which must be reckoned with.

There is no warrant, then, for neglecting microbes and considering them as an enemy of slight importance. It would be folly to think that we may fold our arms and trust to our natural powers of resistance. On the contrary, we should always keep in mind that we have in microbes terrible adversaries, always on the alert to surprise us, and against which we are bound to maintain as intact as possible the natural defences with which our organism can oppose them.

ANTHELMINTICS.—Vermifuges, a class of medicines which either destroy or cause the expulsion of intestinal worms, such as santonine, for the round worm; valdevine, kousso kamala, male-fern, oil of pumpkin seed, papoid, pomegranate root bark for the tape and broad worms, *Tænia solium;* and injections, containing either peroxide of hydrogen, or fluid extract of golden seal, or even a pinch of common salt into the lower bowel for the thread worm *Ascarides* (See Intestinal Parasites).

ANTHEMIS (*Chamomile*).—Matricaria comp. tincture, highly ozonized. This compound consists of a solution of the glucosides of the most highly ozone-generating plants, so perfectly blended together as to form a great vitalizing tonic and an active scavenger to germ-laden blood.

It is indicated in all anemic states of the brain, and great sympathetic, as in neurasthenia, paralysis, brain softening and atrophy; impaired intellect, imperfect memory, vertigo, faintness, disinclination for mental and physical exertion, numbness, headache, even in structural lesions, weakness, anorexia.

It is specially indicated when the eighth pair of nerves, the vagus and pneumogastric are much weakened, as in indigestion, pains in the stomach, fulness, flatulence, eructations, constipation, jaundice, with an inactive, sluggish liver, where the bile elements commingling with the blood, poisoning the brain; in gall-stones—a general unstrung condition, incidental to care, worry, or to the use of tobbacco, opium, whisky, chloral habits, antidotes, insomnia. Has a marvelous tonic action upon the heart and lungs.

Directions for use: dose, 5 to 10 drops in a glass of water before meals.

ANTHRAX.—Place the cow, the sheep, goat, in insanitary conditions, states inimical to health, there is a strong liability for the evolution of a microbe in their blood of the most deadly character, *the bacillus anthrax,* which first sets up inflammation of the spleen, then destructive blood changes, and latterly death. Like all diseases due to the presence of a microbe it is both contagious and infectious. Transmitted to man by their breath, hair, milk and by their excrementitious discharge contaminating water or vegetables which man may consume.

This pathogenic microbe is the most easily recognized and cultivated of all disease germs, provided there is a pustule; it consists merely of rods, long and broad, and threads with spore formation, of a very active character. These rods are found straight or curved, rigid or motionless; vary in size in different animals.

The bacillus anthrax is the most tenacious of life of all disease germs; it is the most active breeder, throwing off millions of spores every hour, literally loading the blood, overcrowding the capillaries over the entire body, engorging the lungs, brain, liver, spleen, causing infraction of the kidneys; in the process

of bacterial growth it excretes one of the most deadly of all alkaloidal toxins.

It is a microbe we ever have in our midst.

Although this is the most easily recognized and cultivated, the diagnosis of its presence in the human subject is often difficult.

The history of the case may be of advantage: A wool-sorter, a tanner, a butcher are most suggestive. The milk of an affected cow may be taken and death ensue in a few hours, without a spot being perceptible on the skin; if there be a pustule or pustules, recognition is easy, which can be readily confirmed by a microscopical examination of the saliva, blood, urine, feces. Cultures of the germ, injected into any mammalia, reproduce the disease in all its malignancy.

The toxin of this germ causes rapid death by embolism and decomposition of all the tissues, often before any symptoms of morbid action are visible.

The complete annihilation of this pathogenic microbe is most difficult, even prior to and after it has set up destructive metamorphosis.

Once recognized, push the best bactericides internally and locally. For internal use try first chlorine and quinine combined, peroxide of hydrogen, ozonized sulphur water, Chian turpentine mistura.

Locally, free crucial incisions into the pustules, encourage free bleeding by douches of hot water, follow this with either a wash of ozonized jequirity or formalin, one tablespoonful to the quart of water. Jelly of violets works admirably.

The following case is worthy of recital: W. F. Terrhune, a butcher, aged twenty-seven years, was engaged by the health inspector in his locality to cut up an ox that had been killed, owing to the fact that there had been several suspicious cases in the vicinity. The inspector made him aware of the danger. He was instructed to be careful. Both before and subsequent to the examination he had his hands immersed in a strong solution of chlorinated soda, and all seemed to pass off well, when suddenly, on the ninth day, a small spot of discoloration made its appearance on the right forearm and one on the left elbow. But no attention was paid to these. Three days later he had violent rigors, with diarrhea, nausea, vomiting and a high grade of fever, temperature 105° F. Simultaneously with the rigors the right arm from the hand to the shoulder became enormously swollen, which was followed by the same

in the left, but not so great. The pustule on the right forearm became much indurated in the base, and its edges were surrounded with blebs containing a transparent liquid, great pain, distension in the arm; lymphatics in the axilla much engorged, with a doughy swelling down the side.

Constitutional symptoms becoming worse, tongue coating heavily, sore enlarging, a crucial incision was made into both pustules, free bleeding encouraged by the use of hot water, and subsequently they were both dressed with compresses saturated with the peroxide of hydrogen; internally, chlorine and quinine were administered every hour.

On these remedies the case progressed well, rapidly to recovery.

ANTIFEBRIN.—Acetanilid, a coal tar derivative, a heart paralyzer, a crystalline substance, sparingly soluble in water, but readily dissolved in alcohol, ether, or chloroform. Dose, three to ten grams in wine or brandy. It is a dangerous remedy, powerful as a cardiac sedative—a paralyzing agent which robs the blood of vital elements, indispensable to calorification and incompatible with life. Alarming cyanosis is apt to follow its exhibition.

ANTI-FAT.—It is quite unnecessary to take up space in describing the causes which are productive of an excess of fat in the human body, such as drinking, amylaceous and saccharine food, inertia of the glandular system, etc. It is sufficient for me to state that in an extensive practice of over forty years I have only found in the entire materia medica three remedies, without the use of massage and baths, that can be depended on for the removal of adipose tissue, without in any way impairing the vital integrity of the individual, and these are:

1. *The ozonized juice of phytolacca berries,* gathered on the first frost, in the salubrious valleys of North Carolina, compressed and saturated with negative ozone, is undoubtedly one of the best of all remedies for the removal of obesity. This remedy has a wonderful effect in rousing up the functions of the liver, in stimulating the lymphatic system, and thus preventing fatty deposits; at the same time, by some innate action, it actually strips the body of this non-vital element.

Sometimes a dose of two drops added to a glass of water thrice daily will be sufficient; in other cases in which there is

inertia of the glandular system, the dose, to have an effect, may be from ten to twenty drops as frequent.

It is a remedy which should in all cases be prescribed and administered by an experienced physician.

2. *Fucus vesiculosus,* the ozonized extract of bladder wrack, made from the fresh plant, containing a very large percentage of iodine and potassa—an invaluable remedy, definite in action, never failing in ridding the body of fatty elements. It is an excellent alterative; acts chiefly upon the glandular system. No extract, no other preparation, but what I have mentioned of this plant is of any value.

3. *The ozonized extract of the thyroid gland of the lamb* is a remedy of great power; its primary action is to increase all the vital elements of the body; its secondary action to annihilate and eliminate all the non-vital. In this way adipose tissue, a non-vital element, is removed. The highest possible degree of life is attained; all non-vital elements cease to exist.

These results are only to be obtained from the ozonized extract, never from dried, shredded or tablets. Use the genuine article.

ANTIKAMNIA.—Careful analysis of this compound shows it to consist of about 90 per cent of acetanilid and 10 per cent of bicarbonate of soda, thoroughly triturated together.

The addition of the soda to the acetanilid makes it very soluble, easy of absorption and prompt in action.

Like all coal tar derivatives, it induces muscle failure of the heart. It is a dangerous toxic agent, causing death by paralysis of the heart, hence the cyanosis.

ANTIPYRIN.—A white, crystalline powder, prepared synthetically from certain constituents of coal tar. Soluble in water in less than an equal weight, and freely soluble in alcohol and chloroform. It is said to lower the temperature of fever patients as much as from 3½° to 5½° F., and produce a refreshing sleep for five or six hours by administering fifteen grains at 9 p. m. and seven and one-half grains each at 10 and 11 p. m., dissolved in water or wine when taken. As much as seventy-five grains have been given in three divided doses, proportioned as above. The following mixture has been of utility in typhoid fever: Antipyrin, 20; Jamaica rum, 30; water, 150, and syrup, 150 parts. Dose, a teaspoonful three times a day. The dose for children is from one to one and one-

half grains for each year of a child's age. Incompatible with spirit of nitrous ether.

Antifebrin and antipyrin are powerful poisons, cardiac depressants, and lower temperature by inducing muscle failure of the heart, which is generally permanent.

ANTRUM.—The antrum is much more frequently affected by disease than is generally supposed.

ABSCESS OF THE ANTRUM.—Is very common, as the result or blows on the cheek, and from decayed stumps of teeth in the jaw. It has been caused in new-born infants from injuries during parturition. The symptoms are aching, uneasiness of the cheek, preceded by acute throbbing, pain, rigors, fever, followed by slow and progressive enlargement. If unrelieved, there will be bulging of the cheek, extrusion of the eye, obstruction of the lachrymal duct, depression of the hard palate, loosening and dropping out of the teeth, and closure of the nostril. In some cases it will burst into the nostril or mouth.

Treatment.—A free aperture should be made into the antrum by extracting either of the molar teeth and a trocar pushed up through the empty socket into the antrum. If the teeth are all sound, then an opening should be made through the membrane of the mouth above the alveoli of the molar teeth, and the bone be pierced by a strong trocar. After the pus has been evacuated, it should be syringed out with an antiseptic wash, as borax or carbolic acid.

DROPSY OF THE ANTRUM.—The antrum may become enormously distended with its own natural, clear, mucous secretion, if the aperture into the nostril be obliterated. An opening to relieve the difficulty is best made through the molar teeth. Its evacuation should be followed by a stimulating injection of carbolic acid and glycerin.

TUMORS OF THE ANTRUM.—In addition to abscess and dropsy the antrum is often filled up with bony matter, exostosis, and fibroplastic tumor of the consistence and form of brain or liver; often the color of the latter, and difficult to recognize from cancer. Others have the color and consistence of kidney. We meet with fibrous tumors, very dense and encysted tumors, and other deformities that may be mistaken for enlarged antrum.

With all diseases of the teeth and nose the antrum has much to do. The incessant tinkering about old stumps, filling with amalgam loaded with mercury, sets up irritation and effusion.

The ignorant extraction of teeth has also much to do with it. Catarrh and its disease germ, amœba, often block up the nasal opening. The trouble seems to be that when its lining membrane becomes irritated it will secrete an endless variety of substances, which, when liquid, semi-liquid and glandular, are easily got rid of by an opening, stirring up the contents, and washing out the antrum daily with a stimulating wash.

ARBOR VITÆ (*Thuja Occidentalis*).—Oil and fluid extract; dose from five to thirty drops of the former, thirty to sixty drops of the latter, destroys the micrococci of smallpox and warts; excellent externally for the destruction of simple and venereal warts, also for corns. The ozonized oil of arbor vitæ is one of the most remarkable remedies ever presented to the medical profession, with an exceedingly wide range of action. Extracted by polarized light and negative ozone from the fresh leaves. An invaluable germicide. Taken internally it cleanses the blood by annihilating the spores of many disease germs.

Indicated in all papular microbic diseases, as warts, variola, polypi, cauliflower and vascular excrescences, cancerous infiltrations, tumors.

Dosage, from one to two up to from ten to thirty drops, added to water, every three hours, so as to keep the system saturated and prevent spores from germinating.

Very excellent results are also obtained from incorporating the oil in an ozonized gelatin bougie. Papilloma *in the urethra* are much more common than is generally supposed; passed as a recurring stricture, so that by the use of these bougies we often rid the urethra from stubborn obstructions. This same oil incorporated in butter of coca and make into a rectal and vaginal suppository.

Indicated, as a rectal suppository, in prolapse of the rectum; hemorrhoids; fissures; enlarged prostate, with weeping from the penis; warts; cancerous infiltration; polypus.

Indicated, as a vaginal pastil, in follicular inflammation of the mucous membrane of the vagina; uterine catarrh; warts and polypi; vaginismus; vascular excrescences; granular cervix; erosions or ulcers of the os uteri; cancer; cauliflower growths; tumors of all kinds; hypertrophy of the uterus; hemorrhages.

ATHLETICS.—Popular opinion, which is often wrong, has settled in favor of athletic exercises, although we are extremely doubtful of their utility. Gymnastic training develops considerable changes in the human body. It enlarges the muscles and glands, produces dilatation of the heart, structural and functional derangement, degenerative changes in the muscles, brain atrophy, bordering on idiocy; at least mental alertness of a low type. An athlete takes his place in the nation to which he belongs, in vital deterioration, because his exercise is destructive to brain nutrition. It wipes out the typical fissures of thought. Their tenacity of life is cut short. The nerve supply which is essential to longevity is inadequate. He is short-lived even if his effete matter after exercise is removed. Over-training, excess, in which all are guilty, increased development, degeneration or deterioration follow of vital organs. Finally he resorts to tobacco or alcohol or both to allay his perverted desire.

AN ANTI-MICROBE POWDER.—This is prepared by the action of ozone gas on boracic acid, forming a rose red powder of extraordinary germicidal power. It was specially prepared for surgical practice for dusting on wounds, obtaining in all cases in which it was applied union by first intention.

Later on it has acquired quite a reputation in hospital and private practice, as a local germicide. It is especially adapted for the requirements of the nursery, as a dusting powder, and as a substitute for the villainous powders palmed off on mothers, here it has been used with signal success. As a toilet powder for ladies' use, it possesses great advantages over the poisonous cosmetic powders of zinc and bismuth so much in use, preparations which are very incautiously resorted to, and which cannot be too strongly condemned.

In the management of cases of incontinence of urine, and in all urinary complaints, as a dusting powder it has proved invaluable; by its use the urine is deodorized and the skin protected against bacteria with soreness and excoriation.

In *chafing,* in which bacteria are always evolved, its action is instantaneous, affording prompt relief.

In erythema, roseola, urticaria, in which the bacteria are on the skin in search of free oxygen, its application is instantaneous, in the removal of the burning, tingling in the skin. In bed sores in which the oidium albicans are present, this powder instantly kills the entire colony, and cicatrization takes place.

It annihilates disease germs wherever they exist and can be reached. As a snuff, it will destroy the amœba of nasal catarrh; as a dentifrice or tooth or mouth application, all germs in the oral cavity will disappear if applied there; it is inimical to all forms of tinea, it will kill the cryptogamic growth of sycosis, if dusted on after the face is washed and dried.

ANTITOXIN.—Is thus prepared: The streptococcus of diphtheria is taken from the throat of a child affected with the disease, and injected into the cellular tissue of a horse. This is followed by a febrile condition, which occupies a week; this is repeated again and again, until no febrile reaction is experienced.

Later on, the animal is bled, and the serum of the blood is collected, to which carbolic acid is added, making a one-eighth per cent solution.

This is injected into the cellular tissue of children who have the diphtheria, with the intention of arresting the growth of he germ, sterilizing the tissues, arresting the disease. Such a hypodermic injection produces degenerative changes in the blood, heart, kidneys. The whole affair is a delusion and a fraud—a money grab, for there is no warrant in nature for the assumption that animal cells secrete an antitoxin for a disease which may be used to induce an immunity in another animal. Cells secrete normal or perverted products, according to conditions under which they labor, and these conditions are modified by pure drugs, habits, environments, modes of life.

Antitoxin is simply glandered horse serum and carbolic acid, made up of scientific humbug.

Parties desirous of testing the hypodermic treatment of diphtheria, without the abominable glandered serum of the horse, ass, or goat, etc., should try the germicide itself, pure and simple carbolic acid. As near as we can analyze it, it is as follows:

Ten drops of carbolic acid to one pint of distilled water approximates the strength of antitoxin, and is the solution in most general use. Of this solution a syringeful (sixteen minims) may be injected, and it may be repeated in one or two hours, or less often, as indicated. The dose is so small that, though a powerful drug, no danger need be apprehended from its use.

The first effect of carbolic acid, hypodermically, is on the circulation, acting something like aconite. This is the effect we

strive for in diphtheria, and therefore, must use it early. It relieves the congestion of the throat and head before the integrity of the tissues is materially injured. After the tissues are in a semi-gangrenous condition, the chances for a cure are not so good with any remedy.

APHONIA.—Partial or complete loss of voice is more frequently caused by the toxins of disease germs, circulating in the blood, than by any other condition—paralyzing the nerves of the larynx, because they are weak, or their origin in the medulla oblongata being devitalized.

Much of the non-success in treatment is due to a want of proper landmarks—a proper division. The first point to determine is to ascertain whether it be induced by the toxin of the microbe of tuberculosis, or syphilis, or bronchitis, or pneumonia, or cancer, or croup, or diphtheria; or to the depressing action of cold or wet, or to a lack of cohesion in the nerve cells, induced by a non-action of the will, in harmony with volition, such as we see in the ranting of some clergymen (laryngitis clericorum).

Possibly (the medulla oblongata) the reflex nerve centre may be weak, very impressible, then either teething, worms, masturbation in either sex often a cause.

APTHÆ.—The evolution of the oidium albicans, a disease germ on mucous membrane of the human mouth, which may be communicated by local contact or infection to any other devitalized mucous membrane.

The mouth is the superior orifice of the alimentary canal, and is the great cavity from which this passage is reached. The mouth is bounded by the palate, and at the back by the false palate, it is circumscribed by the cheeks, and closed by the lips.

We commonly divide the mouth into two parts, the mouth proper and the interior mouth. The mouth extends just to the root of the tongue; it contains the tongue, the gums and the teeth, and is moistened by the saliva secreted by three pairs of glands.

1. The *parotid gland* is situated at the angle of the jaw and the auditory canal, the canal of the gland that conducts the saliva to the mouth near the second eye-tooth. 2. The *submaxillary gland* excretes at every movement of the tongue. 3. The *sublingual gland* is placed behind the anterior part of

the tongue, to supply it with moisture. The interior mouth is separated from the mouth proper by the rise of the palate.

Mastication and primary digestion are the most important functions of this part of our organism.

The evolution of this microbe is due to very many conditions. Malnutrition, inflammation. It may exist in the mouth alone, or travel backwards to the fauces, such as we have from an ordinary cold, or a sore mouth or throat. Usually commences with simple redness, slight puffiness of the membrane, which may subside in a few days, and leave the affected parts in their original condition. This may occur again and again, the individual paying little or no attention to it; but each attack weakens, devitalizes, giving rise to an increased liability to a recurrence, and finally the evolution takes place in the follicles of the mucous membrane.

If both mouth and fauces are involved, there is considerable dryness and irritation, with fetor of breath, difficulty of swallowing, and pain. Mouth and fauces are studded over with these enlarged follicles, appearing rough and uneven, either in irregular patches or distinct. Vesicles rupture and the full-fledged microbe escapes, leaving the patches exposed in an ulcerated condition.

Spread from the lips to the fauces, the follicles of the mucous membrane of the fauces become involved, and the condition designated aphthæ is apt to terminate in aphonia, with huskiness, hoarseness and loss of voice. The microbe oidium albicans, an active worker, in this ulcerated state of the mucous membrane, throws off necrosed tissue in abundance, which is thick, sticky, and expectorated with difficulty.

One remarkable feature of the evolution of the oidium albicans in all partial deaths of a mucous membrane is, whether it arises from perverted nutrition or inflammation, that the evolution of the germ in the mucous follicle invariably carries with it any other microbe which may be present in the blood of the individual. For example, if the bacillus of syphilis, of tubercle, of rheumatism, of cancer, lurks in the blood, the oidium albicans will carry it, nay, transmit it, if opportunity offers; hence the terms simple aphthæ, tubercular aphthæ, syphilitic aphthæ, rheumatic aphthæ, cancerous aphthæ, are appropriate.

Properly speaking, aphthæ is never purely a local affection, for its toxin in all cases is to be found in the blood. Aggravated by insanitary conditions, as an atmosphere reeking with disease germs, overcrowding, absence of sunlight, meagre and

deleterious food, as we have in large cities, it may assume a gangrenous form.

All affections of the mouth and throat should be treated with warm, soothing, germicidal remedies.

For local use, warm solutions of either ozonized boroglyceride or chlorate of carbon are unexcelled, used frequently, every two or three hours.

If patient is old enough, or the parts are admissible, as the nipple or vulva, mouth, fauces, painting each patch over with jelly of violets, is most effectual in annihilating every vestige of a microbe in a mucous membrane, rapid cicatrization taking place. A few applications may be necessary.

If it be the purpose to prolong treatment, solutions of either wild indigo, echinacea or siegesbeckie may be used.

In some cases our readers will find a rapid and most efficacious treatment in atomizing (warm) a spray of ozonized sulphur water. This has been found highly beneficial, used thrice daily in stamping out the germ.

ASPERMIA.—Absence of semen, a condition in which the patient, whether in coitus or other sexual excitement, is unable to ejaculate semen. This is met with either as a congenital or acquired affection; in the former it concerns men who have never discharged semen; in the latter, or acquired form, it is brought about by affections of the prostate, most frequently inflammation, with effusion of lymph, occluding and obliterating the glandular structure and extensive nervous plexi of that gland.

The largest number of cases of acquired aspermia which I meet with are married men who have resorted to unnatural methods of intercourse or congress with harlots, which give rise to prostatorrhea, occlusion of the ejaculatory ducts and hypertrophy of the prostate. The ozonized thyroid juice, solution of spermin, kephalin, do excellent service, but iodol tablets, two grains, thrice daily internally, aristol suppositories and iodol bougies must be called into requisition to absorb the infiltration of lymph.

The use of these animal extracts mark a new era of treatment.

APIOL.—A solution of the pure active principle of parsley, a plant which has long enjoyed a world-wide reputation as a most trustworthy emmenagogue. It is largely employed to

regulate the menstrual function, in cases of scanty flow, amenorrhea, dysmenorrhea, by reason of its stimulating effect on the intestinal and genital vasomotor system and, secondarily, on the utero-ovarian apparatus. Apiol, ozonized solution, should be carefully distinguished from all other preparations and from the essential oil; it is a preparation of uniform composition and may be relied upon to give results which cannot be obtained from the variable and uncertain products usually dispensed.

APIS MELLIFICA.—Honey; a liquid of a muco-saccharine nature, secreted in the nectarines of flowers, collected by the *Apis mellifica,* or common bee, and deposited in the cells of the combs; a vegetable product, used both as a *food* and *medicine;* for the former it needs no digestion, as it is prepared for prompt assimilation, thus saving the digestive machinery; for the latter it is a demulcent, aperient, diuretic, germicide.

As a food, decidedly nutritive; as a remedial agent, it depends much on the source whence it is derived. Procured from sections of the country in which buckwheat is the main source of supply, exceedingly nutritious; in California and Florida, remarkable for its intense sweetness and demulcent properties, the source being flowers; whereas Australian honey is remarkable for the oil of eucalyptus it contains. This latter is of decided therapeutic value, especially in scarlet fever.

Eucalyptus honey, a fresh importation can be obtained from the wholesale drug trade.

Some physicians imagine that a tincture of the poison of the honey bee, obtained by maceration of the entire bee, is of efficacy as a diuretic and diaphoretic, and in irritable bladder. As we have remedies of much more certainty of action, it is not worthy of clinical study.

APPENDICITIS.—The cæcum or its appendix, situated in the right iliac fossa, and covered by peritoneum only anteriorly, may be seriously diseased, without any other part of the intestines being affected. Thus severe colic, and even fatal ileitis, may arise from the lodgment in this part of the canal of hard, fecal matter, skins and stones of fruit, orange-seeds, gallstones, fish-bones, foreign bodies, balls of intestinal worms. Sometimes fecal matters accumulate to such an extent as to form a very large mass, and many cases of recovery might be cited which took place upon the passages of a large quantity of feces,

when the fecal enlargement had been pronounced a tumor by an ignorant practitioner. When any morbid matters get impacted in the vermiform appendix of the cæcum, they are very apt to give rise to inflammation, ending in abscess.

SYMPTOMS.—In the acute form there is fever, nausea, constipation; fulness and tenderness about the right iliac region; pain rendered exquisite by pressure. Position on right side selected, with trunk somewhat bent, and knees drawn up to relax abdominal muscles so as not to press on painful tissues. If peritoneal coat becomes involved, may have general peritonitis; or areolar tissue around cæcum may become inflamed, and result in suppuration and abscess; when this takes place, it is called *perityphlitis.*

The treatment which has been successful in our hands has been the administration of very large doses of green root tincture of gelsemium, alternated with Dover's powder—perseveringly given, so as to induce narcotism—applying over the cæcum concentrated ozone, and every hour a copious enema of a mixture of glycozone and infusion of lobelia herb. Just as soon as possible five to ten grains of periodate aurum—energetic treatment, bearing in mind that all operations are a delusion, for if not fatal at the time are so subsequently—medicinal treatment, avoiding the popular hobby, the knife.

APOCYNUM CANNABINUM.—The root of the American hemp. Physiological action: Has a special vitalizing action on all the serous, mucous, and synovial membranes of the body—as well as upon the walls of blood-vessels and nerves; hence valuable in rheumatism, neuralgia, etc., but above all it has a most decided action in all cases of dropsy.

Therapeutical action: Used as a diuretic and hydragogue in all cases of dropsy.

Preparations and dose: Decoction, fluid extract and tincture. The latter is the best, made of one part of the root to ten of alcohol. Dose, five minims to one dram, added to water, as indicated. Many physicians prefer the infusion.

APOPLEXY.—Apoplexy is generally understood to be the effusion of blood *into,* or *on;* or *under* the brain within the cranium (the skull); this is called sanguineous apoplexy. There are, however, two other kinds of aploplexy: one called serous, where the fluid so effused is clear and straw-colored, or else very slightly tinged with blood; the other kind of apoplexy

is by some called the most perfect, that is, when there is no effusion or extravasation of blood or other fluid, but when the whole of the blood-vessels are so inordinately distended with blood that the entire brain is pressed upon in consequence of the heart propelling the blood through the arteries with great force, the veins do not return the blood from the brain with sufficient quickness, and then, as the skull is unyielding, the substance of the brain is pressed upon throughout; and unless this is speedily relieved the patient dies. This is held to be the most fatal form of apoplexy; because when blood is effused it may be small in quantity and perhaps slowly poured out, the pressure therefore is more partial, death occurs more slowly, or is sometimes averted for a considerable period.

The effusion of blood may occur in any part of the brain, as between its membranes, between the inner surfaces of the skull and the membrane called the dura mater, which lines it; it may be poured into any part of the substance of the brain, or into the cavities called venticles; it may happen between the base (the under part) of the brain and the floor of the skull; and here, be it remarked, it would be more certainly and more quickly fatal. If it were to happen in the lesser brain (the cerebellum), it would be certainly fatal, and at once.

Having thus furnished an outline of the nature of the disease, we come to the causes that are supposed to predispose to its occurrence; these are numerous. *Intemperance of all kinds,* whether in fermented liquors, gluttony, excessive amatory indulgence, violent passions and strong emotions, very high temperature, tight collars, tight lacing, a long depending position of the head, severe cold long applied to the body, improper use of narcotic drugs, inhalation of some gases, blows on the head, violent straining, incessant coughing, great distention of the stomach and intestines with food or flatus, and in different degrees perhaps any cause that tends to derangement of the health.

The recital of the occasional causes will, to a certain extent, point out the means of avoidance; in addition we will give some directions for the management of those who are prone to the disease.

Moderation in the indulgence of all the appetites should be enjoined, and indeed it would be better if a total abstinence from all those gratifications which tend to excite the circulation were observed. Animal food to be taken in the smallest quantities, but if the patient be of a full and robust habit he should

avoid it altogether, and take no beverage but tea, coffee, toast-water or spring-water. Wine, spirits, and beer are poisons in such cases, ay, even the smallest quantities. The hair should be closely cut, and the head kept very cool; discard nightcaps and all headgear, wear the lightest of hats. Keep the feet warm and the body agreeably so. Discard all garments that have the effect of tight ligatures on the body. Take as much exercise as the strength will permit, and as little sleep as possible, avoid the siesta or after-dinner nap, retire early and rise soon in the morning. It must not be forgotten that depressing passions and emotions are as adverse to the welfare of the patient as the exciting ones. Let the bowels be kept freely open; never neglect them.

These general results will be frequently followed by the best results; more particular ones can only be supplied by a judicious surgeon, because they will be determined by the exigencies of the case, the age, habits, and other circumstances of the patient.

No age has been exempt from this appalling disease, but it is most frequent in its occurrence after forty-five. The idle, the intemperate, and the luxurious furnish the greatest number of examples. In some families it would seem to be hereditary, but it is perhaps connected with other peculiarities of constitution. Families that in their succession afford the largest number of instances are rarely exempt from tuberculosis gout, or insanity.

The excessive wear and tear of the nervous system, incidental to a high state of civilization, excess in eating and drinking, peculiar formation of body, give rise to an impaired vitality of the cerebrum, called apoplexy, in which there is a sudden loss of consciousness, power of voluntary motion; coma, from which no exertion can rouse, with heavy stertorous breathing; frothy saliva blown from the mouth, with a full hard pulse.

Three varieties met with in practice, (1) *nervous,* in which no appreciable lesion can be detected in the brain; (2) *sanguineous,* in which an effusion of blood has taken place into the substance of the brain, usually forming a clot; (3) *serous,* the pouring out of the watery portion of the blood, which finds its level upon the base of the brain, and gives rise to paralysis.

The sanguineous is the most common, an attack of which may be brought on either by a flow of blood to the head, or by anything that prevents or retards its return, such as violent fits of passion, great or violent muscular exercise, stooping, study,

wearing tight articles of dress around the neck, overloading the stomach, excessive use of highly seasoned food and malt liquors, inhaling the fumes of sulphur, opium, mercury, charcoal; concussions, blows, and by drugs as overdoses of quinine.

The young and middle-aged of a plethoric habit of body are most liable to the sanguineous form; those of an intensely nervous diathesis, spare habit, impaired constitution, to the serous and nervous.

In the three varieties the attack is ushered in with vertigo, a sense of pressure or weight in the head, choking sensation, drowsiness; confusion of the senses and ideas, loss of sight and memory.

During the seizure in the sanguineous form the face flushes, congested pupils are contracted; in the other forms, pale, pulse variable, coma, stertorous breathing; pupils either dilated or contracted or one dilated, the other contracted; difficulty in swallowing; incontinence of urine.

Any of those symptoms calls for immediate, energetic treatment, calculated to ward off an attack, such as cutting the hair and applying hot packs to the head; dry cupping neck, shoulders; mustard to the extremities from the toe to the knee, free purgation—little drink, spare diet, but nutritious.

If an attack has taken place, loosen all tight clothing about the neck; remove the patient to a cool place; keep the head and shoulders elevated; abundance of fresh air. As soon as he rallies, free action of bowels is necessary; meagre diet; he must carefully avoid fits of excitement, passion and sexual congress, exertion and changes of temperature, especially exposure to hot sun, hot baths, overheated rooms and violent exercise.

If the patient can swallow remedies, passiflora incarnata, with veratrum viride to keep the pulse at sixty, are most beneficial. Dry cupping to be repeated every forty-eight hours, mustard on the calves of the legs and soles of the feet, free purgation.

In the serous and sanguineous forms, hot packs to the head, enemata of chloral hydrate; passiflora suppositories to restore sensibility.

ASEPTOL.—This term is applied to a 33½ per cent solution of orthoxyphenol sulphonic acid. It has been recommended as a substitute for carbolic and salicylic acids. It possesses their antiseptic properties and is soluble in water, alcohol, and glycerin in all proportions. It is free from the irritant

and toxic properties of carbolic acid, and is therefore recommended in extensive surgical operations (opening of the abdominal cavity, etc.). It is not escharotic when applied to delicate tissues. It has antiseptic properties in a solution of 1 in 1,000. The internal dose is intermediate between carbolic and salicylic acids.

ARISTOL.—A combination of iodine and thymol, is a valuable, inodorous, and non-toxic bactericide, equal if not superior to iodoform, iodol. Aristol is insoluble in water and glycerin, slightly so in alcohol, but readily so in ether. Soluble in oils by thorough friction without heat. Used like iodoform or iodol, for the cure of chancres, ulcers; by dusting on, excites rapid cicatrization; also excellent in parasitical skin affections.

It has acquired quite a reputation as a peculiar and powerful absorbent. In the form of a suppository, containing two and a half grains of the aristol, it has wrought wonders in procuring absorption of the fibrous and connective tissue of an enlargement of the prostate gland.

We might, if our space permitted, cite case after case, in which the aristol suppository has effected a radical cure. Old, very chronic, indurated cases that have resisted every remedy yield to this.

The best exhibition or method is at 3 p. m. insert a cocain suppository. This induces complete anesthesia. Three hours later empty the rectum by an administration of an enamae of either flaxseed or slippery elm tea; when that passes off, insert the aristol suppository pretty well up in the rectum, and permit it to remain over night.

ARAROBA, OR GOA POWDER.—The tree *Angeline amarjose,* growing from 80 to 100 feet high, in Brazil, whose heart wood, under certain conditions, undergoes a peculiar cellular metamorphosis into what is termed goa powder, the active principle of which is chrysarobin, forming chrisophanic acid under the influence of moist air and ammonia; a powerful bactericide. This acid is generally used instead of the crude powder.

Therapeutic action: As an external microbicide in psoriasis, lupus, all forms of tinea, eczema, and parasitical cutaneous affections, it is of rare value. It is also administered internally.

Preparations and doses: From 10 to 20 grains of the acid added to an ounce of ozone ointment is exceedingly valuable.

Internally the dose should be small, 1-10 of a grain triturated in sugar of milk; larger doses are liable to cause irritation, vomiting, purging.

AMERICAN ASH.—Specially indicated in all types of the uric acid diathesis, rheumatism, and gout in ladies. The chemical composition of this remedy is such—lime, colchicin, lithia, hydrastin, cocain—that it is pre-eminently a drug for the ladies of the near future; extremely efficacious in membranous dysmenorrhea.

Dose: From a half to one teaspoonful, to be increased, if necessary, every three hours, or more frequently, if advisable.

ASPIDIUM FILIX-MAS.—The root of the male fern is useful in expelling tape-worm. Preparations and dose, 8 to 20 drops, to be repeated as the case requires.

ASPHYXIA.—Suspended animation or arrest of the phenomena of respiration and circulation; suffocation by the nonconversion of the venous blood in the lungs into arterial, owing to the supply of air being cut off; the unchanged venous blood of the pulmonary artery passes into the minute radicles of the pulmonary vein. Their peculiar physiological construction requires arterial blood to excite them. Stagnation takes place in the pulmonary capillaries; death follows from want of arterial blood.

Whatever be the cause, drowning, strangulation, hanging, inhalation of noxious gases, first clear the mouth and nose of mucus or other substances; expose face and chest to the air; elevate the head; pull forward the tongue; resort to artificial respiration at once; this is most useful and should be persevered with; don't give any drink till breathing has been restored. Then select whatever is most speedily and easily procured of one, or two, or more of the following: Friction to the entire body with hot towels; hpodermic injections of either brandy or ether, or nitroglycerin; drop doses of one per cent solution of nitroglycerin on the tip of the tongue, a suppository of the same in the rectum; electrical, positive pole over the nape of the neck (medulla oblongata), negative over the diaphragm; enemata of either comp. oxygen, or glucozone, or peroxide of hydrogen, or infusion of capsicum, or brandy, or an emulsion of turpentine. Use the most easily procured. As

soon as he breathes, give comp. oxygen, either by inhalation or orally.

In the newly born, if asphyxiated, place child in a hot, then into a cold bath, alternately for five or ten minutes; use brisk friction to spine, then entire body, artificial respiration, loss of a few drops of blood from the umbilical cord; injections containing a little brandy.

The following rules are excellent:

RULE 1.—Remove all obstructions to breathing. Instantly loosen or cut apart all neck and waist bands; turn the patient on his face, with the head down hill; stand astride the hips with your face toward his head, and, locking your fingers together under his belly, raise the body as high as you can without lifting the forehead off the ground and give the body a smart jerk to remove mucus from the throat and water from the windpipe; hold the body suspended long enough to slowly count one, two, three, four, five, repeating the jerk more gently two or three times. Then act by Rule 2.

RULE 2.—Keep the patient face downward and maintaining all the while your position astride the body, grasp the points of the shoulders by the clothing, or, if the body is naked, thrust your fingers into the armpits, clasping your thumbs over the points of the shoulders, and raise the chest as high as you can without lifting the head quite off the ground, and hold it long enough to slowly count one, two, three. Replace him on the ground with his forehead on his flexed arm, the neck straightened out, and the mouth and nose free. Place your elbows against your knees and your hands upon the sides of his chest over the lower ribs and press downward and inward with increasing force long enough to slowly count one, two. Then suddenly let go, grasp the shoulders as before and raise the chest; then press upon the ribs, etc. These alternate movements should be repeated ten to fifteen times a minute for an hour at least, unless breathing is restored sooner. Use the same regularity as in natural breathing.

Do not give up too soon. You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it.

RULE 3.—After breathing has commenced, restore the animal heat. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. Warm the head nearly as fast as the body, lest convulsions come on. Rubbing the body with warm cloths or the hand, and slapping the fleshy

parts, may assist to restore warmth, the circulation of the blood and breathing also. The rubbing of the limbs should always be from the extremities toward the body. If the patient can surely swallow, give hot coffee, tea, milk, or a little hot sling. Give spirits sparingly, lest they produce depression. Place the patient in a bed, and give him plenty of fresh air; keep him quiet.

Avoid delay. A moment may turn the scale for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing; artificial breathing is everything—is the one remedy; all others are secondary.

Do not stop to remove wet clothing. Precious time is wasted, and the patient may be fatally chilled by exposure of the naked body even in summer. Give all your attention and effort to restore breathing by forcing air into, and out of, the lungs. If the breathing had just ceased, a smart slap on the face, or a vigorous twist of the hair, will sometimes start it again, and may be tried incidentally, as may also, pressing the finger upon the root of the tongue.

Before natural breathing is fully restored do not let the patient lie on his back, unless some person holds the tongue forward. The tongue by falling back may close the windpipe and cause fatal choking.

If several persons are present, one may hold the head steady, keeping the neck nearly straight; others may remove wet clothing, replacing at once by clothing which is dry and warm; they may also chafe the limbs, rubbing toward the body, and thus promote the circulation.

Prevent friends from crowding around the patient and excluding fresh air; also from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

In suffocation by smoke or any poisonous gas, as also by hanging, proceed the same as for drowning, omitting effort to expel water and the like from windpipe. In suspended breathing from effects of chloroform, hydrate of chloral, electric shock, and the like, proceed by Rule 2, taking especial pains to keep the head very low, and preventing closure of the windpipe by the tongue falling back.

The insertion of one or two nitroglycerin suppositories or a 3 or 4 drop on the tongue, will often resume instantaneous resusication.

ATAXIA.—Locomotor ataxia, a disease of the spinal cord in which there is an excessive formation of connective tissue, a true sclerosis of the posterior columns, with wasting and disintegration of the nerve fibres emanating therefrom. The dorsal and lumbar portions of the cord are usually implicated. Becoming a common malady among men addicted to sexual excesses, and who are so unfortunate as to have either the microbe or toxin of syphilis in their blood.

It may also be hereditary, in which case the lateral and posterior columns of the cord are affected.

In these cases, the child exhibits oscillations of the eyelids; very jerky, speech much impaired, ataxic gait.

When acquired in adults it has the following well-defined characteristics: Impaired vision, incipient amaurosis, or changes in the reaction of the pupil to light, but not to accommodation; squint, sharp, shooting, stabbing pains in the muscles of the limbs; inco-ordination of muscular movements, exhibited chiefly in the peculiar manner in which the feet are thrown out and the heels brought sharply to the ground; inability to stand with the eyes closed; muscular jerking, spasm, numbness, followed by loss of sensation in the lower limbs; by and by, paralysis, with bladder and rectal trouble.

Usually slow, insidious; lasting many years before ataxia comes on. Unless some accidental condition sets in, death is due to grave organic changes in the brain.

Although unable to effect a cure in locomotor ataxia, much can be done to ameliorate, retard its onward progress and prolong life.

As valuable aids to accomplish this, daily bathing, followed by massage by a highly vitalized manipulator for at least one hour and a half, morning and night—then faradization of the entire body, and latterly inunction of guaiacol. Diet most nutritious; an excess of highly animalized food.

Much efficacy is derived from wearing a large guaiacol plaster over the lumbar portion of the spine, removed and reapplied after every act of massage.

Suspension is absurd; the fallacy of ignorance; a sea voyage, change of scene, excellent.

We grant the incurability of the disease, but claim that it could be arrested or stayed, life prolonged.

We have tried the following, and make a suggestion to a host of anxious, half-hoping, half-doubting sufferers—that the expressed juice of the phytolacca berry, administered in doses

of from 2 to 15 drops thrice daily, diluted in water, has a most remarkable action upon blood formation, upon the pink marrow and like glands; that when steadily administered it restores the vital fluid to a normal standard, checks the formation of the connective tissue elements in the blood, keeping the blood at a high standard. The ozonized phytolacca berry juice is at least twenty times more active, hence better results now than could be obtained thirty years ago.

It relieves the lightning pains in this affection and effects considerable improvement in gait and general condition of the patient.

Chloride of aluminium in 5-grain doses thrice daily is another remedy of some merit, and often effects considerable improvement.

Cacodylate of sodium is being used quite extensively in locomotor ataxia with much benefit, so far, greatly increasing nutrition and arresting the growth of connective tissue.

ATMOSPHERIC DISINFECTION.—The value of disinfectants in cities contaminated by sewer gas, and in the presence of such affections as cancer, syphilis, tuberculosis, diphtheria, typhoid fever, whooping-cough, and the eruptive fevers, cannot be duly appreciated.

The time has arrived when old methods of disinfection must be discarded, as not far-reaching enough, and newer, more powerful, deeply penetrating means take their place.

One large tablespoonful of formalin added to one quart of water, distributed in shallow plates around a room, the atmosphere of the apartment at a temperature of 75 degrees F., the formalin will not irritate the most delicate individuals, but will volatilize sufficiently to completely annihilate every disease germ present. There is no necessity either to boil the water or apply heat, as it will vaporize sufficiently to destroy any microbe it comes in contact with on any material object in the apartment.

Physicians should use this brand only, as it is C. P.; it is no cheap, inferior, watered down stuff. They should see that it is kept in every house; it is unexcelled, admits of ready volatilization. The vapor so generated is pure formalin attenuated; thoroughly competent to act as a most efficient bactericide and ozonizing agent. Placed in every house, renewed every few days, there would be much less disease, and what would be would suffer great amelioration, likely break it up. Words are

inadequate to describe its great efficacy in throat and lung maladies, especially when the tubercle bacillus is present.

House, school, church, theatre sanitation is important; various forms of fungi can be detected in all these structures, whether frequently occupied or not, which can readily be effaced by the exposure of formalin.

In this preparation of formalin, we have an ideal germicide —an agent possessing greater bactericidal properties than we possess in any other drug, which makes it specially valuable for sterilizing the epithelial scales in scarlet fever, which contain the spores of the micrococcus. If the formalin is exposed in the apartment, it matters little where they drift, for from them similar life cannot spring, for the scales on desquamation are so altered by this agent that the germ never propagates again. Formalin approaches the ideal germicide, and as such its exposure in the apartment during the desquamative stage of scarlet fever is to be commended.

As a disinfectant formalin has no deleterious effect; it is only when it gets into the body by the stomach that it causes atrophy of the optic nerve.

ATROPHY.—A wasting, a shriveling up of any tissue, structure or organ.

BRAIN ATROPHY.—A shrinkage of the brain is an incident of modern civilization—common in old age, when it becomes small, intellectual faculties childish—modern precosity gives us atrophy in the young—a draining of the nervo-vital fluid, either in masturbation or sexual excesses at any period of life; our present system of instruction in schools; the tension; the use of beer or any alcoholic beverage; excessive study, long, profound; a diminution of sleep or insomnia; and above and beyond all, the *toxins* of disease germs.

Before any remedies can be successful in eradicating brain atrophy, the cause must be removed, then select from the following remedies, some two of them, of the greatest efficacy, should be administered: comp. tincture matricaria, kephalin granules, cerebrin, avena sativa, coca passiflora incarnata, c. p. solution of spermin, protonuclein, thyroid ext., massage, electricity.

The best food for wasting of the cerebrum is oatmeal, wheaten grits, broiled white fish, with abundance of animal and vegetable substances.

ATROPHY OF THE HEART.—The heart muscle, from want of nutrition, as it is very abundantly, nay, profusely supplied with branches of the great sympathetic, it loses under depressing emotions, desires, affections, passions. The toxins of disease germs in the blood act disastrously upon all involuntary muscles, especially the toxins of diphtheria, epidemic influenza, typhoid fever, syphilis, pneumonia, etc.

Tobacco, tea, acro-narcotic drugs predispose to a feeble heart.

Atrophy of the heart is very easily recognized by the feeble pulse, from forty to sixty beats per minute; lowered temperature, lassitude, debility, vertigo, muscæ volitantes, tinnitus, area of dullness on percussion much diminished; sounds very feeble, often inaudible, with anemia, defective metabolism, malnutrition, the function of every gland is very much impaired.

In the case of atrophy of the heart, or cardiac failure, first forbid the use of tea, beer, alcohol, tobacco and all acro-narcotics. Anemia, an exhausted nerve centre, is at the origin of every case. Therefore, we must bear in mind that massage stimulates the heart, the arterial circulation in the muscle hastens the nervous currents, promotes the passage of lymph through the lymphatic vessels. Under systematized massage the metabolism of the body is maintained—digestion much improved; it aids cardiac nutrition, relieves the stagnant circulation, then a wonderful improvement in every organ, gland, in motor and sensient nerves takes place.

Matricaria is the best cardiac stimulant in those cases. Kephalin granules are unexcelled—avena sativa, good; cinchona and mineral acids are of rare value, passiflora. Use thyroid extract with care. Local stimulation over region of heart. The best of all remedies is the muscle alkaloid creatinin.

Diet, light, generous; give stomach rest, time to recuperate.

ATROPHY OF THE MAMMARY GLAND.—The larynx, mammary gland, the uterus and its appendages, are linked as one, by a chain of nerves that bind and anastomose together, so that any shock, concussion, jar, injury to one, implicates the others. A shock to the uterus, from cold during menstruation, causes the breast to collapse, and aphonia to supervene. A woman guilty of masturbation causes brain, uterus, breasts and larynx to atrophy. Prostitution loose, varied, blights the entire generative system. Absolute celibacy, as in elderly maidens, gives rise to uterine, ovarian, mammary and laryngeal shrinkage, hence the peculiar modulation of voice. As the entire repro-

ductive system, anteriorly is covered with branches of the great sympathetic, depression to her moral nature rebounds upon her breasts. It may be congenital or due to the toxins of disease germs.

In order to establish a growth or regrowth of the mammary gland, all causes that produced it must be removed, and patient by means of bathing, nutrition, be placed in as good a condition as possible.

Internally select one or two of the following and administer —matricaria before meals, either kephalin, avena sativa, malt extract, thyroid extract, protonuclein c. p. solution of spermin, creatinin, saw palmetto.

Locally, bathing the breasts once or twice daily, friction, electricity, saw palmetto ointment. No compression.

Diet, generous to a fault, oatmeal, broiled fish, cream, animal and vegetable diet of the best.

ATROPHY OF MUSCLES.—Muscles lose their contractility either by non-use, or injury to their nerves, or the non-exercise of the will with the act of volition, to the paralyzing action of the toxins, of disease germs; then if any of those conditions be present, the fibres of the muscle or muscles will become pale, inelastic, and if not arrested will pass into fatty degeneration.

So long, however, as vital contractility is manifest by bringing the electric current upon the muscle and its exhibiting the proper test, hopes may be entertained of a cure, otherwise there is none.

If there be the slightest response to the electrical current, the individual should be braced up by every possible means—best of nutrition, bathing, systematic massage, passive motion, friction, kneading, patting, followed by judicious faradization, not only of the affected muscles, but of the entire body.

Internally tonics are the most available remedies, such as will aid blood formation, thyroid extract, protonuclein, cinchona and mineral acids; from 3 to 6 grains of creatinin daily; malt extracts are inoperative remedies for muscle growth, those with tobacco and other narcotic remedies forbid.

ATROPHY OF THE SPINAL CORD.—Aside from all forms of mechanical violence, shock, ajrs, concussions, blows, masturbation, sexual excesses, etc., the toxin of the bacillus of syphilis heads the list as the grand cause of spinal atrophy and palsy.

The symptomatology of the atrophy of the cord is very varied and protean—spastic paralysis of the lower extremities is common; disturbance of sensation, involvement of

bladder and rectum, complete impotence, tremors, burning sensations in skin—usually pain in the abdomen, hips, knees, legs and intercostal region.

The great object to be attained by any treatment is to destroy the active neoplasms in and around the cord and overcome the degeneracy.

For this purpose and to overcome the wasting, starting new elements of life, a guaiacol plaster, four inches wide, reaching from the medulla oblongata to the sacrum, kept on forty-eight hours, off the same length of time, and then re-applied again and again, it works wonders when this vitalized structure is smitten—when off, a linimentum of guaiacol and chloroform should be rubbed in.

Internally most nutritious diet and the same remedies as for atrophy of the brain, especially thyroid extract, protonuclein and spermin, are excellent. Comp. saxifraga with an excess of iodide potass. in alternation with quinine.

Daily bathing, followed with massage for one or two hours, never to be omitted.

ATROPHY OF THE TESTES.—Exceedingly common; productive of phrenal degeneracy; may be congenital; blows on the head and back in early life, later on masturbation, varicocele, excessive sexual indulgence will cause them to waste, especially if there be incompatibility; or the participant a prostitute; or addicted to loose and varied congress, celibacy.

The toxins of many of the pathogenic microbes, such as the gonococcus, the bacillus of syphilis, tubercle, mumps, give rise to a blight of the testes. Bicycle exercise damages the prostate, seminal ducts, gives rise to a constant leakage, dwarfs the testes, subsequently imbecility and mild insanity follow. Dime novels are a moral poison, inaugurate a wasting of the testes.

All the causes being removed, the growth of these glands can be promoted, often radically restored, by prescribing matricaria, saw palmetto, kephalin, avena sativa, passiflora, thyroid extract, protonuclein, ambrosia orientalis. Occasionally comp. saxifraga and quinine. C. p. solution of spermin. This latter remedy merits the attention of all who have either small or shrunken testes. It being the pure alkaloidal spermin extracted from the testes of the bull, it fills the bill, a direct nutrient to the testes; an invigorator of the brain.

Locally bathing, saw palmetto ointment, electricity.

A diet of the most nutritious character, eggs, shell fish, wheaten grits, poultry, rare broiled steak.

ATROPHY OF THE UTERUS.—This may be either congenital or due to retarded development; or to blows, falls, shocks, falls on back of head, violence of some kind, or to depressing passions, toxins of disease germs; fevers, morbid blood stream, as in syphilis, menstrual suppression. Removal of the ovaries causes of the body of the uterus to disappear entirely.

Atrophy of the uterus between fifteen and forty-five years of age is best treated by the removal of causes. A generous diet, moderate exercise, flannel clothing, bathing, massage, and faradization of the uterus daily.

If it be due to ovarian and uterine blight, thyroid extract, protonuclein c. p. solution of spermin, are valuable remedies; work wonders as uterine vitalizers and tonics.

The most gratifying results are obtained from the kephalin granules, which are usually prompt and decisive in their action.

The wine of aletris farinosa should never be overlooked in the general treatment.

The best success in ovaro-uterine atrophy, is to stimulate their functional activity by invigorating the nervous system.

ASTHMA.—This term is very vaguely used to designate a malady characterized by wheezing respiration—a difficulty of breathing occurring in paroxysms, but the genuine disease includes those cases only in which there is an irritation either in the origin of the vagus or some part of its course.

The causes which are supposed by many to give rise to this are peculiar types of conformation, non-acclimatization, morbid states of the blood, toxins of disease germs, peculiar affinity for certain locations, certain idiosyncracies to the aroma of plants, flowers, grasses.

Attacks or seizures are most liable to take place when the electrical condition of the atmosphere is lowered. This condition is blended with a neurosis, a reflex impressibility, irritability and hyperemia of the bronchial mucous membrane, which seem to be an essential part of the disease.

Structural changes are rare in simple asthma, common in the genuine.

True or nervous asthma consists in a paroxysmal spasm of longer or shorter duration, brought on by some of the causes enumerated and by others unknown, which irritate the nerves that supply the circular muscular fibres of the bronchi, causing contraction usually after an inspiration; the air is retained in the air cells; there is an impending sense of suffocation, gasp-

ing for breath, profuse sweating; relaxation usually follows, and the spasm is relieved.

As a rule, the spasm is ushered in with languor, drowsiness, anxiety, wheezing respiration. If patient anticipates an attack let him take a tablespoonful of the ozonized tincture of euphorbia pilulifera, add to it half a tumbler of hot water, and take half a teaspoonful every five minutes until it has checked or broken up the attack. This is most efficient, safe; no harm can come from a large or overdose; better by far than inhaling the fumes of stramonium, nitrate paper, or even the nitrite of amyl.

Euphorbia pil. is a curative drug in asthma; as such it is best taken in the form of a tablet or lozenge, one every three hours.

If the patient is not promptly placed upon this remedy, then one or other of either of the following should be selected and the patient placed upon it: Musk root, rosin weed, coca, erythroxylon, grindelia, nitrites of glycerin, amyl, sodium, glycerite of sulphur, passiflora incarnata, Calabar bean, bromid. If the toxins of disease germs be the cause, a combination of iodide of potass. and quinine, 5 of the former to 1 of the latter; increase in these proportions.

A nutritious diet, with a careful regulation of every article, is important; flannel clothing.

In the neurosis of hay, roses, ragweed, grape asthma, paint the fauces and tonsils of the nostrils freely with the jelly of violets daily. This anesthetic completely wipes out all attacks. Fortify the vital forces with matricaria and kephalin granules.

In spasmodic contraction of the circular muscular fibres of the bronchi, no matter what its causation may be, there is always to be found an evolution of a microbe, pathogenic of the disease.

Inhalation of narcotics affords relief by sterilizing the germ.

If, at the very moment of an attack, the chest and back be lightly but rapidly sprayed with the chloride of methyl, the attack will at once cease, and remain so for twenty-four hours.

The euphorbia pil., in tincture form, has great power in relaxing bronchial spasm, best administered by adding two teaspoonful to a cup of hot water, of which one teaspoonful every few minutes is a dose; it is an excellent remedy to ward off nocturnal attacks.

The euphorbia has great power in relieving bronchial spasm administered by the mouth or rectum.

A very popular, successful method of relieving the urgent

symptoms of asthma is in prescribing the following: Chloral hydrate, 1 ounce; ozonized syrup of tolu, 1 ounce; tincture euphorbia pil., 2 drams; fennel water, 2 ounces; mix. Dose, teaspoonful doses at first every half hour; as soon as relief comes, every three hours. Paint nasal fossa as far in as possible with glycerin, half an ounce; hydrochlorate of cocain, 10 grains; dissolve by the aid of heat, or, what is even better, paint both the nasal cavity and fauces with jelly of violets, when there is immediate relief of the spasm.

AURUM (*Gold*).—Preparations of this metal are bactericides. The pure chloride of gold, dissolved in nitric acid to the point of saturation, makes a valuable caustic for the destruction of the hybrid germ of lupus. The chloride of gold and soda, one-thirtieth of a grain, triturated in sugar of milk, destroys the germs of syphilis and cancer.

The periodate is a new chemical compound of a definite composition, a product of the union of iodine and gold—a most powerful germicide, especially destructive to the syphilitic germ, being neither caustic nor corrosive.

The only remedy capable of staying the never-ceasing onward march of syphilis, for when administered in that malady it yields brilliant results.

Syphilis, contagious and infectious, the affected individual is a social danger. Prophylaxis is a failure all over the world; self-denial, moral and religious scruples a failure; even licensing brothels has in no way diminished the number of cases, but vastly increased the clandestine centres of prostitution.

Here, then, is the treatment of the greatest venereal specialist of the lungs and heart in health, and are aided in forming a cinchona alkaloid as a tonic; late in the evening from 5 to 10 grains periodate aurum, with slight intermissions, is maintained for six months.

AUSCULTATION.—The method of recognizing disease by listening to internal sounds. Thus we listen to the sounds of the lungs and heart in health, and are aided in forming a diagnosis in disease. Modern methods of examination of those two organs are by the stethoscope (see Diagnosis).

AUTO-INTOXICATION.—The human body may be poisoned by products of its own making, as well as by the toxins of bacterial life.

In the normal process of digestion, there may be elements thrown into the circulation which may produce alarming symptoms, even death. The urinary tract, from the tubuli to the meatus, is covered with a non-urea absorbing surface. Rob it of that epithelial covering, speedy intoxication follows.

In the whole range of animal existence, waste products are highly toxical. Man himself is but a laboratory of poisons; the sweat is intensely toxical, the feces possess great toxicity; if retained a considerable auto-intoxication follows.

The feeling of languor after exercise; the comatose, drowsy feeling after meals, is due to the absorption of toxins derived from proteids. Auto-intoxication often arises from imperfectly digested products.

So great is the amount of toxins generated within the human body, that we would all die, were it not for the excretory action of the liver.

The liver is a safeguard, a sentinel ever on guard to arrest toxins from entering the circulation. The liver destroys a certain amount of toxic matter, and arrests ptomains from entering the circulation.

The blood current, that carries everything absorbable through the liver, meets within this gland an important function, namely, arresting all poisons in alimentary canal on their way into the general circulation. The portal blood, often loaded with poisons, reaches the liver, where it is at once arrested and thrown back into the bowel. This happens again and again, until this entero-hepatic circulation of ptomains grows smaller and smaller and finally reaches the colon, and, mixed with other excrementitious matter, it leaves the body.

Some poisons, like tyrotoxicon and the pus microbe, have remarkable lethal effects.

AVENA SATIVA.—By a newly discovered, elaborated chemical process, the *avenine,* an alkaloidal body, has been isolated, chiefly from Scotch oats, in great abundance.

The finest Midlothian oats, coarsely crushed covered with water and kept at a temperature of 100 degrees F. for six weeks, permitted to undergo acetous fermentation, then submitted to the action of glycerin, alcohol, and ozone, liberates an immense amount of vegetable phosphorus.

This hydro-alcoholic phosphorized tincture is rich in phosphorus.

Indicated.—In all forms of weakness of whatever kind in children or grown persons; in retarded dentition; all diseases, especially nervous exhaustion, physical, mental debility; nervousness, nerve tire, loss of memory, deafness and blindness, vertigo, insomnia, headache, white softening, paralysis, loss of vigor, impotency. It is the Great Desideratum of the age, composed of the phosphates of the Scotch oats, the life-giving property of the brain, a brain and nerve food, a pabulum upon which the brain feeds, a remedy which contains the essential elements of being, of life, of thought, and organization. To the user it imparts great intellectual vigor; brilliancy and vivacity of thought, a redundancy and freshness of ideas, great mental and physical strength, and endurance; besides it creates a higher and nobler type of manhood, deepens the typical fissures of thought. Every human being should use it. Dose: For adults, from 15 to 30 drops in a little water every four hours; for children, 1 drop for every year of their age as frequent.

BACTERIA.—A few years ago this term was applied to all disease germs; at the present time the name is restricted to that germinal mass present on the tongue, in malassimilation, in disordered states of the alimentary canal, in wounds, or breeches of continuity. It is identical with the *bacillus megatherium,* which is invariably found on decaying vegetables.

The microbe consists of large rods like small sausages, four or five times longer than wide, usually somewhat curved. In the process of sprouting, transverse division occurs, each segment attaining the same length as the original rod. When first seen, with a power of 1250 diameters, they appear non-articulated, but when a drop of alcohol is placed on them, the segments are clearly seen. The rods are motile and form irregular chains of a disjointed appearance.

The bacteria are the most common of all the disease germs, being nothing more than the degraded elements of nutrition in man, and plants, changed, altered, under some adverse conditions. It is found in all deranged or perverted states, as well as in wounds, ulcers, and the like.

Like all other disease germs, it has, in a favorable media, most marvelous powers of reproduction.

Bacteria are pathogenic of perverted nutrition, they bear culture well on slightly acid nutrient agar, and nutrient gelatin. Cultures injected into animals produce profound malnutri-

tion; tongue coats heavily; spore formation takes place in the salivary glands, mouth, fauces; germ-evolution takes place in the usual manner. If not sterilized or annihilated, it becomes an immense and prolific breeder, its ptomain giving rise to colic, abdominal flatus.

Bacteria are either sterilized or completely annihilated by the administration or application of either of the following remedies—peroxide of hydrogen, sulphur water ozonized, comp. tincture matricaria, acetic acid, which creates an alkaline secretion; boroglyceride.

The best illustration that could be given of the presence of bacteria, is that of gastric fever, which is so common among children; usually caused by eating or drinking articles which are indigestible, that offend, irritate or depress the stomach.

It is ushered in with lassitude, chilliness, fever, violent headache, loss of appetite, great thrist, the very thick white coating on the tongue, nausea, vomiting, pain over region of stomach and abdomen, with constipation.

Later on the tongue becomes dry and brown, fever high, pale face, cold extremities, vertigo, nausea or vomiting, splitting headache, fetid breath, vomiting, or else constant nausea, with disposition to vomit; debility increases.

Treatment.—Emetic of wine of lobelia, followed by the neutralizing cordial to open the bowels; aconite for fever, steam or stew wormwood in hops in vinegar, add dioxide of hydrogen and apply hot over the stomach and abdomen; change frequently.

Antiseptics should be commenced early and administered all through the case; small doses of nitromuriatic acid or ozone water are very beneficial.

The diet for some time must be carefully guarded.

BACTERICIDES VERSUS THE SKIN.—Collodion and solutions of gutta-percha have been quite extensively used for the purpose of keeping in close contact germicides to kill the various microbes on the cutaneous surface.

More recently we have introduced gelatin in which an active bactericide is incorporated, a clean and convenient dressing, thus obviating the necessity for bandages or plaster to retain the application. It affords a most excellent means of applying creolin, chrysarobin, resorcin, and other germicides. They are dissolved in definite proportions in a fluid state and

the applied by means of a brush. The mode of application and medicament are to be selected for each case.

Formerly in such cases we were obliged to apply an ointment or plaster to any one part alone. This required time and skill, for when an ointment was applied to one part, before the other part was finished the former was rubbed off; it was also necessary to bandage the entire body of the patient. This required time and skill, and annoyed the patient, and ointments always soil the underclothes, etc. By using the gelatin preparations, all inconveniences are avoided. Following this plan of treatment, these inconveniences are avoided. Following this plan of treatment, I have used other gelatin preparations with advantage—pyrogallic, naphthol (the active principle obtained from tar), iodoform, salicylic and carbolic acids. The mode of applying is the same as with other preparations. The patient, after having been bathed in water, a heated solution of gelatin is applied to the parts with a small brush. As soon as it becomes dry, a small quantity of glycerin is applied to the surface to prevent coating from cracking or peeling off. This coating being transparent, allows you to see the progress of the treatment without removing it. In severe cases this procedure is to be repeated every second day; in milder ones it is sufficient to do so twice or thrice a week. These preparations can be applied by patients on themselves, and do not necessitate their being confined to a hospital or to their home. It is a clean preparation, can be easily removed, does not soil the clothes, or prevent motion when applied over a joint; it is not expensive, does not crack or peel off. It is prepared in the following manner:—Dissolve twelve and a half drams of dry white gelatin in twenty-five drams of distilled water by a water bath, and while stirring add goa powder, pyrogallic acid, naphthol, iodoform, carbolic or salicylic acids, in whatever quantity necessary, allow it to cool, and the cake will take the form of the capsule in which it was prepared (a porcelain capsule is preferred). You can then direct the patient to take the necessary quantity, place it in a china saucer, apply heat to it, and when in a fluid state apply to the parts with a brush. It can be removed and re-applied as frequently as it is deemed advisable.

BACTERURIA.—Whenever disease germs are present in the blood (pathogenic microbes), they are in the very nature of things liable to become engorged in the kidneys, where they give rise to irritation and organic changes. Usually, the first

symptom is the presence of albumin in the urine, with pain in the back and aching in the thighs.

We see this in an early period and all through a case of scarlatina, where the germ literally blocks up the kidneys and gives rise to desquamative nephritis; also in erysipelas, in which the micrococci give rise to great congestion and albumin. In cancer, syphilis and tubercula, the bacilli give rise to peculiar lesions through an inflammatory process, by the germ forming nests in the kidneys.

No matter therefore what the character of the microbe may be, attention should in all cases be directed to the kidneys. They should be kept flushed with an active germicide, as the uric acid solvent, strophanthus, nitroglycerin.

BALANITIS.—Consists of an irritation, inflammation, with a shining, glistening redness, or excoriation of the covering of the glans penis and inner aspect of the prepuce. Some call it balanitis when the glans only is affected, and balanitis-posthitis when both glans and internal lining membrane of prepuce are involved. The distinction is unnecessary and altogether uncalled for, as the two conditions are essentially the same.

Causes.—Excessive sebaceous secretions around *corona glandis* often gives rise to it in boys and virtuous young men, and causes anxiety, which ignorant or knavish physicians will magnify into something venereal, so as to extort a fee. Rubbing of clothes, chafing in hot weather, masturbation, a natural rankness in some women, will cause it in highly-organized and susceptible men; catamenial discharge, and the venereal germs. From whatever cause it arises, it can be communicated to the opposite sex by contact; as the parts, whether dry or freely exuding muco-purulent matter, are freely covered or filled with the bacillus of smegma and bacteria. So, in dressing, the cleaning of vessels, destruction of dressing, use great cleanliness, especially about hands, lest any of the matter reaches the eye.

Symptoms.—Heat, redness, itching about the glans. In some cases it is of a smooth, shining redness; in others, a muco-purulent discharge. On uncovering the glans, by drawing back the prepuce or foreskin, patches of redness and excoriations are perceived, with flakes of curd-like matter. If there be swelling of the foreskin, or if its sphincter fibres are irritated, it may be contracted, so that it cannot be drawn back

over the head of the penis, so that retraction is impossible, and then there is phimosis. There are many reasons why the foreskin should be drawn back in cases of this kind; there may be a perforating ulcer, a chancre, or an abscess, or mortification may be taking place; bubo from the irritation may take place; there may be a gonorrhea, or an indurated or infecting chancre.

Vulvitis in women is an analogous affection.

Treatment.—Draw the foreskin gently back, and apply a lotion of peroxid of hydrogen or one ounce of the ozonized tincture of echinacea to four water; or simply lime water reduced in strength by adding a little water to it.

BALDNESS.—The head being the most elevated part of the body is most liable to become the seat of micro-organisms from the atmosphere.

Baldness, or alopecia, as it is technically called, means loss of hair. It may be partial or general, temporal or permanent. It is best known in the form of calvities or senile baldness, which is one of the changes indicating general structural decay and advancing age. In some individuals the head becomes bald during middle life, and in others it is well covered by hairs even at a very old age. These differences depend upon two influences: that of general health and strength of constitution, and that of hereditary peculiarities. In this form of baldness, whether due to senile or premature decay, the hairs first become gray and then white; they no longer present their usual appearance, but are short, split, and very dry and crisp. The scalp at the same time becomes thin and tense. At last the white hairs are shed, and no others are formed; complete baldness is then produced, and the thin scalp becomes smooth and shining. These changes always begin on, and are very often limited to the vertex of the head; they are due to senile shrinking of the tissues of the scalp and obliteration of the follicles—those small depressions on the skin in which hair originates. Baldness has been observed in newly-born infants, although this form is very rare. The growth of the hair may be retarded for one or two years, or it may never take place. Of accidental baldness there are several varieties. The most common form, perhaps, is that general thinning which is caused by exhausting diseases, as, for instance, microbes of fevers, by bodily decay, and by great mental emotion. Some extensive thinning, or even total loss of hair, may be seen in children and young adults, apparently

in good health, and without any affection of the scalp to account for this serious condition. It has been suggested that this early loss of hair may be due to failure of nervous power, or to cessation of the natural reproducing function of the hair-bulbs and hair-forming apparatus. Accidental baldness is also very frequently produced by parasitic diseases of the scalp, such as favus and the different forms of tinea. According to the nature of the disease it is general or partial: in favus the whole scalp is affected, and in tinea decalvans there is complete baldness only over small circumscribed patches. Thinning of the hair is a symptom of venereal disease; in some instances the patient becomes quite bald. This affection, however, is usually temporary, and the hair grows again after the course of the general disease has been averted by suitaable remedies. The congenital and senile varieties of baldness are not amenable either to local or general treatment. In the former class of cases, one must wait patiently until the formative organs of the hair are well developed, and in the latter class the loss of hair is to be regarded, like many other concurrent phenomena, as an inevitable result of advancing age. The application of stimulating washes only irritates the skin, and may do much mischief. In baldness, occurring during convalescence from fever or other exhausting maladies, the hair usually grows again as the patient recovers. In cases where the hair becomes thin and loose in consequence of debility or want of tone, washing the scalp with tepid water and castile soap, and drying well and subsequently damping the hair and scalp with the Ozone Hair Restorer is most advantageous.

Undoubtedly the best remedy to increase the growth of hair on the scalp is the tincture of oats thrice daily.

BALSAMS.—A name given to natural vegetable substances, concrete or liquid, but odorous, somewhat bitter, piquant, composed of rosin, benzoic acid and as esential oil, which permits benzoic acid to be disengaged by the action of the heat; readily dissolved in volatile oil, alcohol, and ether. Peru, tolu, benzoin, storax, llaretta, differ essentially in their composition and properties, but all are valuable microbicides, whether natural or artificial.

BANDAGES.—Bandages consist of strips of linen, calico, or flannel, of various breadths, from one to six inches, and of any length, from one to ten or twelve yards. The best material

is stout unbleached calico; but a strip of sheeting, or strips of an old petticoat or dress are very serviceable. They should be rolled up firmly for use, as they are applied by unrolling them over the part to be bandaged. There are some few plain rules which ought to be attended to in the application even of the simplest bandage which can be used; as the *manner* in which it is bound round the limb makes all the difference to the comfort of the patient. It will be found most convenient to hold the roller on the inner side of the limb (if it be a limb) to be bandaged, so that in case of the *right side* being operated on, the bandage is held in the operator's *right* hand, and *vice versa,* and for expedition in application the portion which is still unwound should be *underneath* that which is being wound round the limb, in fact, that the bandage should form a sort of continuous figure of eight. On first starting off, rather more than the circumference of the limb should be unwound and cast around the part, and the hand not employed in holding the bandage made to tuck the free end under the first complete turn. If this slight maneuvre be dexterously done, the bandage will never slip, unless purposely unwound. It is then lightly but firmly wound round the limb by a series of turns as far as required. Now it is evident that, in the case of a well-shaped, muscular limb, this winding cannot be made evenly, as it will not lie flatly; the simple device of "reversing" is then employed; it consists of taking a "turn" in its application, and bending it upon itself by changing the surface of the roller which is applied to the skin by making an acute angle or reverse at each turn, and giving it a sharp "twitch" at each. In bandaging the arm or leg, it is best to commence with a few turns round the hand or foot first, whether it be for the retention of splints or dressings. Bandages should always be applied with an equable pressure throughout and not too tightly. Bandages, such as the above, may be rendered hard and strong by smearing their successive turns with gum, plaster of Paris, glue, paste, or white of egg, which speedily sets, serving the double purpose of bandage and splints.

BAPTISIA TINCTORIA.—Wild indigo weed, an ozonized tincture best form for internal administration. It is an active microbicide, sterilizes, and annihilates disease germs in both the solids and fluids of the body; its range of action is most extensive, wherever bioplasm is changed, altered, degraded into other living matter, hence its value in ulceration.

BARIUM SULPHURET.—Mixed with starch; and apply locally once. Hair depilatory.

BATHS.—The body is made of cells; they may be regarded as the material, the brick or stone, out of which the human "temple wherein a God may dwell" is constructed. This tenement in which the soul lives for a few short years has to undergo continual repairs, we sleep so that the worn-out cells can be taken up and replaced by new ones, which are continually being manufactured out of the food that we eat and of the air or oxygen which we breathe, and water is the vehicle which conveys the new material needed for repairs, and which removes the old worn-out tissues from the system. Water thus becomes in the body, as it is in all nature, the great agent of purification, and since all disease is caused by, or in some way connected with, impurity, the uses or *rationale* of water as a remedial agent can be readily understood.

The body is not only made of cells, but these cells are all so arranged as to form tubes. Even the bones and the hairs are composed entirely of tubes, in which there is a continual circulation, a constant flow of fluids, of which water is the principal part. The skin contains many millions of these tubes, and in a full grown man their united length, it has been carefully estimated, would amount to not less than twenty-eight miles. Through these tubes not less than one pound or two pounds of matter pass daily from the body in the form of insensible perspiration. Bathing, oiling, and rubbing the skin keeps these little tubes open and active, and permits impurities to escape, which, if retained, would render the blood dark-colored and charge it with catarrhal phlegm, which would tend to retard the circulation, cause congestion, lay the foundation for consumption and many other forms of disease.

Not only should we regularly bathe the surface of our bodies for the purpose of cleanliness, as above indicated, but the entire tubing of the whole body should be abundantly supplied with this natural agent of purification.

Pure, ripe, juicy fruits furnish the best, most wholesome, and agreeable supply of water for the system, and there are few people who use a quarter as much fruit as a state of perfect health would indicate or demand; but this fruit should be taken at, or form the principal part of, our meals, and never be eaten between meals, especially so if more than two regular meals are taken daily. Hot water drinking, which has amounted almost

to a mania in many places during the past few years, is nothing more nor less than internal bathing. Suppose the system is filled with some form of impurity causing congestion and disease, the patient drinks one, two, or even three quarts of water daily, as many do who visit the springs and watering places. The same quantity of water must pass out of the system through the skin, kidneys, or some other emunctories of the body, and in no case does it pass out as pure water, but becomes loaded with effete matter which it takes up and expels.

There are many people who go to great expense to visit these resorts, who would have been equally as much benefited, if not far more so, had they remained at home and practised daily bathing of their bodies, both internally and externally, by the use of this great natural therapeutic combined with sun-bathing, out-door exercise, rest, recreation, with abundance of oxygen in the form of pure, fresh air, by day and night.

The remedial effects of bathing are generally underrated. This non-appreciation is oftener due to the improper manner in which it is performed than to an insufficiency of curative virtues. The term *bathing,* not only implies a cleansing of the body or certain portions of it, but also the application of water in such a manner as to influence the nervous system, and regulate the functions of the secretory organs. Cleanliness, while it preserves health and promotes recovery, considers only the hygienic influences of water, and overlooks its curative effects.

The cold bath used at a temperature of from 30 degrees to 60 degrees F., is powerfully sedative, and employed for its tonic effects. If the vital powers are low, or the individual remains in it too long (two or three minutes should be the limit), the reaction will be slow and its effects injurious. While it is highly invigorating to robust persons, its employment by those who have a low standard of vitality should be cautious. A local employment may be followed by beneficial results, when its general application would be inadmissible. For these reasons we advise the general use of the cold bath at a temperature of from 60 degrees to 75 degrees F. If, in any instance, the *reaction* is *slow,* we recommend the temperate bath, at a temperature of from 75 degrees to 80 degrees F. The time of remaining in the bath must be regulated by the strength of the invalid. As a rule it should not exceed three *minutes,* and the colder the water the less time should the patient be immersed. Immediately after emerging from any bath, the body

should be thoroughly dried, and rubbed with a moderately coarse towel until a glow is experienced and reaction is fully established. The attempt to toughen children by exposing them to low temperatures of either air or water, cannot be too emphatically condemned. This caution, however, does not apply to the employment of moderately cool water, for ablutions. The cold or cool bath should be taken in the early part of the day, but *never during digestion.* Whenever reaction does not follow bathing, artificial means must be resorted to, as stimulating drinks, dry warmth or exercise.

The tepid bath, the temperature of which is from 85 degrees to 92 degrees F., is generally used for cleansing the body. It is prescribed in fevers and inflammatory affections for its cooling effects. It is usually medicated with some acid or alkali. The latter unites with the oily secretion of the skin and forms a soapy compound easily removed by the water. The temperature should be regulated according to the vitality of the patient, and the bath may be repeated two or three times a day. It removes superfluous heat, and keeps the skin in a good condition for excretion.

The warm bath, at a temperature varying from 92 degrees to 98 degrees F., is always agreeable and refreshing. It equalizes the circulation and softens the skin, by removing all impurities. It moderates pain and soothes the whole system. It does not weaken or debilitate the person, but is in every way beneficial. It is an efficient remedial agent in many chronic diseases, convulsions, spasmodic affections, of the bowels, rupture, rheumatism, and derangement of the urino-genital organs. It should be employed immediately before retiring, unless urgent symptoms demand it at other times. It may be medicated or not, as circumstances require, but should always be taken in a warm room.

The hot bath, at a temperature of from 98 degrees to 110 degrees F., is a powerful stimulant. It excites the nerves, and through them the entire system. It causes a sense of heat and a constriction of the secretory organs; but perspiration, languor and torpor soon follow. In the sudden retrocession of cutaneous diseases, it restores the eruptions to the surface and insures speedy relief. The hot bath may be applied locally when circumstances require.

MEDICATED BATHS.—Any of the above baths may be medicated by the addition of drugs, or by the use of sea or mineral waters, according to the disease from which the patient is

suffering. In syphilis the *sulphur vapor bath* is very valuable. *Sea baths* are stimulating and invigorating. *Brine baths* are valuable in cases of chronic rheumatism.

The following rules may be regarded as applicable to all cases, but more especially so to invalids and all who are not possessed of robust health and vital energy:—

1. Never bathe just before or immediately after eating; a full bath should not be taken less than an hour before, and two or three hours after, partaking of a hearty meal.

2. Before taking a cold bath, always see that the feet are made warm by hot water, by the fire, or by exercise, but do not become fatigued before bathing, which might prevent a reaction.

3. Avoid drinking cold water or becoming chilled before taking any cold bath. While taking a hot bath cold water may be supped freely, but in most cases, hot water is preferable, especially if the object of the bath is to produce perspiration.

4. After bathing, the whole body should be rubbed with the hand, using a very little oil; three parts olive and one part each of cajeput, sassafras, and wintergreen, flavored with oil of cedar or to suit the fancy, makes a good mixture.

5. Care should be taken not to allow the feet to become cold or to become chilled after bathing. Patients, if not able to exercise after bathing, should be warmly covered up in bed for an hour or two.

6. Persons who are naturally delicate, and all invalids who are feeble and debilitated, should carefully avoid all very cold, very hot, very long, or unpleasant baths, especially severe shocks of shower or douche baths.

7. Local baths taken by sitting in a bath tub or common wash tub tipped over on one edge, with only a pailful of warm, cool, or cold water in it, with the feet in a pail filled with hot water, taken as often as once or twice a day, using at the same time a weak solution of the sulphite of soda, as an injection, will cure one of woman's worst complaints when all the doctor's drugs are unavailing.

8. A wet bandage made out of an old sheet or two or three yards of cotton flannel, one half wet in hot, cool, or cold water and wrapped about the hips at bedtime, surrounded with the dry part to protect the bedding, has cured the worst cases of seminal and female weakness, of spermatorrhea and leukorrhea, after a few weeks' or months' trial, in cases where all other remedies failed to benefit.

9. Whatever the form of bath, when taken regularly, it should be omitted once or twice a week, and the temperature of the bath should be carefully regulated; where a tonic effect is desired, the less heat the better, always avoiding any very disagreeable sensations.

10. Particular attention should be paid to the temperature of the bathing room, and also to the ventilation. For invalids, the temperature should be about 75 degrees.

BED SORES.—Sores which form on the bodies of patients who have been confined to bed for long periods, and who have been unable to change their positions occasionally. They are liable to occur after any long debilitating illness, such as typhoid fever. The parts generally affected are the prominent parts of the spine. First an area of redness appears, then the inflammation becomes more acute, and, finally, an ulcer forms. Bed sores are in many cases preventable by careful nursing, but in others they appear to be due to some trophic nervous disturbance, and are not preventable. In all cases of severe sickness the back and prominent parts of the body exposed to pressure should be examined daily, and washed with a little spirit lotion. When the redness appears the bathing with spirit should be followed by a dusting with oxide of zinc powder. When the ulcer has once formed it is hard to cure. It should be kept perfectly clean, and dressed daily with either resin or zinc ointment. In all bed-ridden cases, besides the above treatment, a water or air bed should be provided as soon as the slightest redness appears, for in this way the weight of the body is more evenly distributed, and undue pressure does not come upon any one particular part. As a general rule, bed sores are a result of neglect and bad nursing. As a rule they are more likely to occur in the aged, debilitated, paralyzed, or in those suffering from fevers—whenever the blood is vitiated, circulation retarded, constitutional powers feeble. Pressure, uncleanness and moisture hasten their appearance.

As a preventive, sprinkle on all parts liable to pressure antimicrobe powder freely. Observe rigid sanitary measures, patient clean and dry, when practicable change position, keep extremities warm, assist circulation in exposed parts.

BILE.—A peculiar viscid, greenish, or yellowish-brown, bitter-tasting fluid secreted in the liver, from which it passes into the gall-bladder and then on into the small intestines. It

bears an important part in the phenomena and processes which are associated with digestion. It has a slight action in converting starch into sugar. It emulsifies and saponifies fats, rendering them more easily assimilated, and assists in their absorption. It stimulates the passage of food along the intestines and prevents putrefactive changes. About fifty ounces are secreted by the liver in twenty-four hours. When, owing to liver disease, gall-stones, etc., there is an obstruction to the flow of bile through the bile ducts, the bile collects and passes into the blood, giving rise to the symptom called *jaundice.*

BITUMINOUS COAL.—A ton of this yields about one hundred and fifty pounds of gas tar; in olden times a waste product, that surpassed its uselessness only by its offensiveness, but to-day is the source whence nearly all the synthetical remedies are derived, *aniline and phenol,* the output of which is colossal.

It furnishes antipyrin, acetalinda, exalgin, ammonal, asparol, carbolic acid, creolin, izal, diuretin, dulcin, euphorin, hypnol, malarin, naphthalin, phenacetin, salol, sulphonal, trional, hylene and a host of others, to meet every ache and pain of the incorrigible Yankee.

It is made to provide us with nearly all the essential oils, cassia, gaultheria, almonds, creosote, vanilla; also many gums, as camphor, thymol, menthol, paraffin and saccharin, a substance 300 times sweeter than sugar.

The chemical genealogy of all synthetical complex compounds, atoms and molecules show them to be related to aniline and phenol, and when any one is prescribed as a remedy, it is directly destructive to the red corpuscles of the blood, causes cyanosis and dyspnea; thromboses in the large blood-vessels, paralysis of the heart, grave lesions of the gray and white matter of the brain and cord.

The rapid and apparently endless production of these toxical and dangerous remedies is bewildering to the profession, destructive to human life.

It is a remarkable fact that the toxins of the pneumococcus produce the same pathological condition of the blood, a destruction of the red corpuscles, embolism, cyanosis, the same kind of paralysis of the heart muscle, as is produced by administering antipyrin and phenacetin, two of the leaders of the synthetical group.

On the ground of a common humanity these preparations

should be eliminated from the legitimate practice of the healing art.

BLACK WILLOW BARK.—This remedy, whether it be administered in the form of an extract, or applied locally in the shape of a bougie or suppository, is a vitalizing tonic, astringent and sedative to the generative organs of both sexes —a valuable remedy to restore tone and vigor to debilitated parts.

Specially indicated in all devitalized states of the testes and seminal ducts, whether there be a leakage or oozing of semen either by day or night, or at stool, with or without erection.

Of extreme efficacy when the brain and spinal cords are shattered, chaotic, when the semen is thin, rank, infertile and passed off on the slightest excitement.

It is generally conceded that spermatorrhea or loss of semen is due either to masturbation, perversion of the sexual act, congress with harlots, incompatibility, gonorrhea, fissure of the anus, ascarides, rectal ulcer, contraction of prepuce and like causes; but there is another latent cause in which we have a discharge at stool, large quantities of a glairy, tenacious fluid; true it is not all an evacuation of semen, great part of it is from the prostate, nevertheless there are many spermatozoa blended through it as it comes from the seminal vesicles. Such cases demand immediate attention; a course of the ozonized extract of black willow meets every indication; give it orally; use both bougie and suppository; push it before it ripens up into some cerebral affection, before it drains away the nervo-vital fluid upon which the brain rests.

This preparation of black willow orally, by bougie and suppository, controls every case of spermatorrhea where physical and mental weakness is the prevailing or leading symptom.

Ozonized extract of black willow bark will cure all cases of spermatorrhea, but it is often necessary to aid its action; for example, if there be violent, painful erections, a tendency to spasmodic stricture, seminal plethora, several emissions in a night, green root tincture of gelsemium and ozonized passiflora extract should be adminstered with a liberal hand freely to obtain the object aimed at—a quiescent state of the genital tract.

Gelsemium and passiflora for rest.

Prostatic catarrh, when present, requires ichthyol and boroglyceride suppositories in addition.

Constipation must be overcome by small doses of the kola nut paste.

Case recovers with partial impotency, protonuclein, c. p. solution, spermin and matricaria.

Strict attention to bathing, clothing; plain, nutritious food.

General directions: bowels must be opened once daily, black willow to the extent of from a half to one teaspoonful thrice daily; a suppository and bougie of black willow should be inserted every night and retained.

Spermatorrhea can be cured; if neglected, it will, in time, give rise to structural change, either in the genito-urinary tract or in other vital organs, giving rise to impotence, paralysis, tuberculosis. Impotence dependent on disease of the spinal cord and brain brought about by spermatorrhea may be benefited, often cured only on well-defined principles; steady perseverance in a rational plan of constructive treatment.

Spermatorrhea, incontinence of semen, whether it be nocturnal, diurnal, or in the urine, is but an evidence of debility—or it might be explained as a motor neurosis of the sexual apparatus, with spasm of the muscular coat of the seminal vesicles, and when it exists sometimes paresis of the ejaculatory ducts takes place, then an oozing or weeping all the time.

Associated with this genital ability, or irritability, there is invariably a central neurosis in the reproductive centre in the brain and spinal cord. The prevalence of seminal incontinence among our young men is eighty out of one hundred are affected. This exceeding high rate is due to exalted vascular tension of the uro-genital system, produced either by masturbation, sexual excesses, withdrawal, venereal diseases, bicycle riding, the perusal of immoral works of fiction, degrading amusements, or incompatibility in married life.

For the prompt and effective cure of spermatorrhea the producing causes must be removed, dietetic, hygienic rules laid down, and a suitable quantity of the ozonized extract of black willow bark administered at proper intervals, so as to get the system thoroughly under its astringent anesthetic effect. As this remedy has no deleterious action, but is a bracing tonic, it may be with much benefit taken for an indefinite period—months, year.

When pursuing the internal use of this remedy a salix nigra suppository should be inserted into the rectum before retiring, the affected individual eating lightly of his evening meal, sleeping carefully on his right side.

If the prostrate urethra is tender to the insertion of a metallic bougie, or the prostate gland sensitive to a digital examination per rectum, then a few drops of the green root tincture of gelsemium should be taken while retiring. Some individuals are very susceptible to this drug and require only a few drops added to water, while another class may require as much as thirty or forty drops to be effective.

There has been much foolish prattle regarding this medicament by a set of ignorant charlatans. Suffice it to say that our green root tincture is prepared from the fresh root in Florida. When you find it not acting as a true genital sedative in doses of ten or fifteen drops, better, rather than increase it, to add to it thirty drops of the ozonized tincture of passiflora incarnata. Then a definite action is the result.

If, in spite of all these remedies, there still exist a slight oozing or weeping, then in addition to the treatment already laid down a salix nigra soluble bougie should be inserted and retained until completely dissolved and partly absorbed.

The erroneous method of treating spermatorrhea by the bromide of potass must be eliminated from practice. It is a drug essentially destructive to reproductive vitality, destroys cellular growth, gives rise to a shrinkage of the testes, atrophy of the cord, a blight to the brain.

Once a case of spermatorrhea is cured a selection from one or two of the following remedies will be found of great efficacy in reconstructing the weakened genital organs; protonuclein, kephalin granules, c. p. solution of spermin, matricaria.

BLADDER.—The bladder is the receptacle for some of the waste products of the body which are usually floated off in the urine.

In all deviations from health, pathogenic microbes and their toxins are found here in abundance.

Modern methods, the great prevalence of gonorrhea, masturbation, sexual excesses, perversion of the sexual act, bicycle exercise, the heating of motor cars underneath the seat, and then the lumbar portion of the body being exposed to cold, uric acid diathesis, the introduction of catheters, etc., all act disastrously on the prostate and bladder, and are liable to give rise to irritation, inflammation, continence or incontinence of urine, and the evolution of the micrococci urea.

In all conditions of partial death of the bladder these mi-

crobes, the micrococci urea, are abundant in both urine and on the walls of the bladder, and aid in the aggregation of solid products into calculi, in the formation of fungi and other morbid conditions.

The increasing prevalence of genito-urinary trouble imperatively calls upon the profession to exercise more care in the diagnosis of all bladder trouble, at least a cystoscopical examination in all cases—especially in those of difficult or frequent micturition, with or without hemorrhage, with or without micrococci urea, and look out for mould or fungi; and if found inject the bladder with the following:

Distilled water 98 degrees F., four ounces; ozonized oil of thuja, from thirty to sixty drops. Mix, which will effectually kill all fungi.

CYSTITIS.—The causation of either acute or chronic inflammation of the bladder is quite elaborate and varied, embracing mechanical violence, urine loaded with the toxins of disease germs, the metastasis of the bacillus amylobacta, the gonococcus, overdistention, deficient power to expel the last drop of urine, and evolution of the micrococcus urea, which sets up decomposition, and carbonate of ammonia is produced, which adds considerable irritation, and with the precipitation of the earthy and triple phosphates, active inflammation is set up.

The diagnosis is easy. The frequent and painful micturition, accompanied with tenesmus of the bladder. The pain at first local, pelvic, perineal, radiates to the umbilicus, breast, loins. The urine, at first pale, of a low specific gravity, acid, becomes alkaline, turbid from blood, mucus, pus, micrococcus urea and precipitation of phosphates, and if permitted to progress it may extend up the ureter to the kidneys and renal abscess result. The bladder itself may take on diphtheric or gangrenous deposit.

Once recognized, early and prompt treatment.

Administer internally just as large doses as can be tolerated of the green root tincture of gelsemium and passiflora incarnata, and inject bladder every two or three hours, according to the urgency, with a warm saturated solution of boroglyceride, enemata of the same. Administer periodate aurum in doses four to six grains every three hours, to have a free portal circulation maintained. Four ounces of linseed tea, in which one teaspoonful of the uric acid solvent is incorporated every three hours. Moist heat over bladder. To

relieve the severe pain and tenesnus gelsemium and passiflora, with a cocain suppository, every three hours, works wonders; most efficacious.

The washing out of the bladder at stated intervals is of the greatest value—fountain syringe, gravity being the injecting force, together with rest.

Acute and chronic cystitis are terms employed to denote the intensity and duration of an inflammatory process rather than the character of the lesion present.

Modern thought, scientific research, enables us to state that in all its varied phases cystitis is simply a local bladder infection by bacterial germs. Normal urine is an aseptic fluid, characterized by the absence of septic germs, while cystitis is always associated with the presence of septic organisms in greater or less abundance.

Impaired vitality of the bladder offers a favorable soil for the evolution of the micrococci urea and other organisms possessing pyogenic powers.

There is probably no organ in the body exposed to such varied and intense depressing influences as the urinary bladder, hence the etiological factors which favor evolution and infection are retention of urine from exposure to cold and wet, reflex irritation, deep gonorrhea, stricture of the urethra, prostatitis; calculus, morbid growths, sexual excesses, gout, paraplegia, whatever be the etiological factors in any case of inflammation of the bladder, there is always present frequent micturition, pain and fever; symptoms vary much acccording to the intensity of the disease and sensitiveness of the organ. In the acute form, the desire to micturate is continuous—increased by standing and walking; is relieved by rest. Pain is variable in intensity, urine highly ammoniacal, loaded with micrococcus urea and its toxin, extremely sensitive to the rectal touch. Hematuria is the rule, sometimes merely a few drops; in other cases considerable; increased by exercise; relieved by recumbent position.

Independent of causes, large or frequent small doses of the green root tincture of gelsemium, until its physiological effects are obtained acts magically in mitigating its prominent symptoms; maintain its action for a few days, beginning with the uric acid solvent and immediate amelioration takes place. A four ounce warm injection of a solution of ozonized boroglyceride to which is added thirty grains of jelly of violets, let it be retained a few minutes, promptly causes all inflamma-

tory symptoms to subside, add to this a cocain suppository in rectum; a bladder once the object of vital depression is liable to a recurrence.

For prolonged use in chronic cystitis, with the micrococcus urea; we may set aside all that class of vegetable diuretic, astringent, such as buchu, uva ursi, queen of the meadows, and grasp more efficient remedies, such as the uric acid solvent, and the ozonized tincture of lycopodium. This latter remedy has a special action on the walls of the bladder, in toning and astringing; it kills the micrococcus urea, relieves spasmodic retention of urine. Take it all in all, it is our best remedy in vesical catarrh. Besides, if such conditions exist, as constipation, enteritis, chronic bronchial catarrh, or any cutaneous affection, its use effects a speedy cure.

The dose of lycopodium curative in catarrh of the bladder is from ten to thirty drops, added to a glass of water thrice daily. A boroglyceride suppository invariably affords prompt relief in all cases.

In inflammation of the bladder the prevention of the decomposition of the urine and the evolution of the micrococcus urea is the most important point in treatment, as the toxin of the micro-organism increases the vesical irritation, augments the inflammation, thus favors the elaboration of more muco-purulent material for septic organisms. Recently, with the green root tincture of gelsemium, I have been prescribing mistura llaretta with fifteen-drop doses of apiol, one teaspoonful of the llaretta. I have found that these three remedies have a remarkable effect in all cases of vesical catarrh, so much so that muco-purulent matter, the breeding pond of the micrococcus, is at once wiped out. Given in tubercular cystitis, three doses per day, it operates admirably in a notable diminution in the number of bacteria as well as in the suffering.

OZONIZED OIL OF THUJA OCCIDENTALIS.—This remedy, administered both locally and internally, has demonstrated itself to be a most remarkable germicide.

Many eminent cancer specialists use it with success in the cure of malignant disease.

This oil, given internally, or painted over warts, genital or otherwise, is a most effective treatment, being preferable to all others, there being no risk of infection or excoriation.

In cystitis from any cause, the urine literally loaded with the micrococcus urea; if five drops of this oil, added to water,

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be given every two hours, the germs promptly disappear, recovery is rapid. Administered internally with care and persistence, its action is most thorough and efficient as a germicide, that it will kill the micrococci of variola at any stage of its existence.

Rarely do we meet with inflammation of the bladder dependent upon conditions which directly affect its vitality. More generally it is but a symptom of the toxin of some disease germ, such as malaria, rheumatism, papilloma. Within a single decade the management of this system has risen from the plane of empiricism. This change has come about chiefly as a result of investigation of its causes, including the identification of the rôle which bacteria play, and of improved instruments for direct inspection. Many of the causes which were formerly considered as prime factors in the production of this disease are now relegated to their proper places as predisposing conditions. All forms of cystitis are now traceable to pathogenic bacteria as the direct exciting cause. Alkalinity of urine depends upon the action of certain bacteria, notably proteus vulgaris, or micrococcus urea in the decomposition of urea. The bacillus coli communis is a germ which frequently causes cystitis, but as it does not decompose the urea, the urine does not become alkaline. In many cases of cystitis, perhaps the majority, the urine is not alkaline, but acid. If it becomes alkaline, it is frequently due to secondary infection of the bladder. The diagnosis should not only determine the character of the infection of the bladder, but, what is of more importance, it must thoroughly identify the character and source of the inflammation. Simple and uncomplicated inflammation of the bladder is rare. The endoscope and cystoscope are valuable agents in diagnosis and in guiding to a correct treatment the toxin of malaria, if it be due to the hematuria is usually so great that there is little use in washing out the bladder, but great results are obtained by the administration of concentrated kurchicin and the cocain suppository. If rheumatism be the cause, the internal exhibition of the uric acid solvent, with gelsemium, and a boroglyceride suppository every three hours. If due to papilloma, wash out the bladder with a solution of the oil of thuja every other day, besides use thrice daily a cocain suppository. According to this mode of treatment we effect results.

For localized cystitis our most valuable agents are green root tincture of gelsemium. Warm solutions of boroglyceride as injections, together with the cocain suppository.

Chronic cystitis and the evolution of the micrococcus urea in the bladder of elderly men, arising from enlargement of the prostate, acts very much like a stricture. The indications for treatment are, the bladder must be completely emptied at proper intervals of time, and the micrococcus urea completely annihilated.

If the hypertrophy be excessive, natural evacuation may be impossible; then catheterization with a double-current catheter, so that when the urine is drawn a warm solution of boroglyceride can be passed and permitted to flow off.

If the patient be placed upon the boroglyceride and ichthyol suppository, one every two hours alternately, and small doses of tincture of gelsemium and passiflora, these remedies exercise such a blighting effect upon the prostate, when enlarged, that the patient will soon be able to lay aside all catheters and urinate spontaneously.

Papilloma of the bladder presents nothing special at the outset, unless it be a little undue frequency of micturition, which is probably the only sign which excites suspicion. But early in the progress of the papilloma, or all villous growths, there is an important sign, characteristic of it, throughout its entire course, and common to most other tumors at a later period, namely, the appearance of blood in the urine. Hemorrhage occurs after exercise, much more abundant than what would come from the presence of a calculus, and it is unaccompanied with pain and irritation of the bladder. As the papilloma increases in size, hemorrhage becomes more profuse; still pain is absent. A microscopic examination of the urine will reveal the characteristic appearance of papillomatous structure and the presence of a fungus.

Better still, a cystoscopic examination, or the injection into the bladder of a few drops of the oil of thuja in distilled water, as described under the article Bladder Trouble.

The bladder should, in all cases, be washed out with a tepid solution of boroglyceride; an examination made with a sound, which reveals a soft, flimsy tissue, springing from a thick base. On those outgrowths, papoid or trypsin has a well-defined action as solvents.

The papilla is simply a slender fold or extension of the mucous membrane, not an adventitious tissue, and, as such, can be dissolved by the aid of either agent.

The method to adopt is to wash out the bladder daily with either a weak solution of boroglyceride or peroxide of hydro-

gen; after this has been permitted to remain about ten minutes, it should be either passed or drawn off, then a No. 3 catgut bougie coated up to the thickness of a No. 12 with the papoid or trypsin plant.

This procedure is most effective in obtaining a thorough eradication of those growths, and an excellent cure without the risk of any operative procedure.

All civilized men with a well-developed great sympathetic, when they reach the time of life between fifty and sixty years of age, commence to feel degenerative changes, first in irritability of the prostate gland at the neck of the bladder, dragging sensation in the back, loins, thighs, seminal weakness and impotency, and seminal losses; as the seminal ducts pass through the body of the prostate and seminal vesicles lie behind the bladder, the latter organ invariably becomes implicated. An irritable prostate gives to the lining or mucous coat of the bladder the same condition, but which may be intensified by walking, blows, falls, cold, exposure, rheumatism, uric acid, stricture, gleet, straining, sexual excesses, masturbation. When the bladder is thus involved pain over the organ, incessant desire to urinate, dribbling, suppression, very high colored deposits, urine muco-purulent, in which there is an evolution of the micrococcus urea, the toxins of which intensify all the distressing symptoms.

In such cases our readers will find the administration of the ozonized uric acid solvent in alternation with green root tincture of gelsemium most effectual. If not immediate relief add passiflora, which intensifies the action of the gelsemium amazingly.

Ambrosia orientalis, in suppository form, is an invaluable remedy in these cases, once the distress is relieved. Matricaria is a most efficacious tonic, alternating with the c. p. solution of spermin.

Constructive treatment in all cases is attended with the best results.

SPASM OF THE BLADDER.—All muscular structures are liable to attacks of spasmodic action; the bladder having such a coat is frequently affected with spasm. Spasmodic attacks are accompanied with great pain, as well as contraction.

Causes.—The presence of a stone in the bladder; disease of the rectum or uterus; abscess of kidney; an inordinate amount of uric acid; ulceration of the walls of bladder; disease of prostate gland; excessive sexual congress; hysteria; the use

of drastic diuretics or emmenagogues, as oil of turpentine, juniper, cantharides, savin.

Symptoms.—Severe pain in the lower part of the abdomen, extending to urethra. There is either continence or incontinence, or dribbling of urine. The difficulty is not so great when the urine flows involuntarily; when there is retention, with urgent desire to micturate, and tenesmus, with inability to do so, suffering is great. If allowed to continue, may terminate fatally.

Our best remedies are large doses of the green root tincture of gelsemium alternate with belladonna. Copius warm injections, medicated with the hydro-alcoholic tincture of lobelia, and as soon as passed a cocain suppository every three hours. These remedies when energetically pushed afford prompt relief.

IRRITABLE BLADDER.—Irritability of the bladder is said to exist when there is an unnaturally frequent desire to pass urine.

It may arise from organic disease of the spinal cord, kidneys, bladder, prostate gland, or urethra; vascular tumors in the female urethra; pressure of the gravid uterus; irritation of piles, or intestinal worms; presence of a tumor or stone in the bladder; catarrh and ulceration of bladder; acid urine, or functional derangement of the kidneys, bladder, stomach; and to shock to sympathetic nerve, and irritation of adjacent organs.

Symptoms.—The desire to micturate comes on suddenly, frequently, and irresistibly; urine may have to be passed every fifteen minutes—an inability to resist the desire; if attempted, great uneasiness or aching pain. The total amount of urine passed in the twenty-four hours very rarely increases in quantity; bladder diminishes in size; the general health begins to suffer.

Treatment.—If possible, remove the cause, and in order to do that the urine must be examined to see if it is acid or alkaline; if loaded with urates, or phosphates, or oxalates; or if it contain albumin, or pus, or sugar, or any morbid material, and disease traced to its origin, which remove. Patient's bathing, diet and drink regulated to nature of malady at the base of difficulty. Alteratives and tonics, irrespective of cause, changed weekly, and persevered with; suppositories of cocain every night. Then try special drugs to act on the nerves of the bladder. Green root tincture gelsemium in alternation with passiflora.

BLINDNESS, COLOR.—An inability to discriminate between certain colors is a condition that seems to be coming more common, and is of especial interest to the general public as regards an avoidance of accident by excluding affected persons from the offices of engine-drivers, signalmen, pilots, and it is fortunate the class of individuals affected rarely seek such employment. Quakers are much affected with it, so are Jews. In the former it is brought about by a marked characteristic, a general coalescence of the typical fissures of the brain, induced by monotony, sameness, isolation; a condition often present in insanity, epilepsy and other low types of the human brain; in the latter class relationship or consanguinity wipes out the mental characteristics and obliterates the convolutions. This in-and-in breeding, as well as solitariness, predisposes to suicidal mania and causes color blindness.

Among the remarkable phenomena connected with vision is that of an inability to distinguish certain colors and shades of color. People are color blind when their retina will not perceive some of the rays of light. Light is made up of three primary colors, and these, when overlapping in the spectrum, are known as the colors of the rainbow. When mixed, white light is produced. Now each color has a different velocity, light being supposed to be made up of imponderable particles traveling at a vast speed through space. The eye can only see those colors which have a certain velocity, and in ordinary persons these colors are red, blue, and yellow, with their compounds—green (blue and yellow), orange (red and yellow), and purple or violet (red and blue). In some cases the retina may not be able to see one or other of these colors. The bluish tinge seen in solutions of quinine and horse-chestnut is called fluorescence, and is due to the fact that extra rays of the spectrum are then made visible to the human eye.

The average per cent of color blindness among any given people will depend upon the preponderance among them of Friends and Jews, or persons who possess the same characteristics. It always diminishes as we ascend the social or educational scale. Among deaf mutes the percentage is even greater than the two classes mentioned. Intermarriage is not only a great factor, but the same law extends to temperment and races. Intermarriage not only creates the defect, but aggravates it, causing the most intractable form, which is red blindness. There is also to be found an unusually high average of color defects among the children of either fathers

or mothers who work among colors. Trades requiring great concentration of sight, as engraving and watchmaking, seem to bring it about. Women are equally affected with men. The average percentage in people of low civilization or culture is great; among deaf mutes ten per cent, and among Friends and Jews about six per cent.

Color blindness is a defect which is quite compatible with perfect vision in other respects. Color blindness is found to exist in three forms:

1. Inability to distinguish any color, properly so called—black or white, or light and shade.

2. Inability to distinguish between nicer shades of more composite colors, as brown, gray, and neutral tints.

3. Inabilty to distinguish between primary colors—red, blue, yellow; or secondary and tertiary colors, as green, purple, orange.

In the latter form there is a defective appreciation of all colors. Little good results from any treatment, and as there is about one per cent of the entire population affected, care should be exercised by railroad officials, pilot boards, etc., that no affected person be employed, so as to avoid serious accidents.

BLISTERS, OR VESICANTS.—Medicinal substances which, when applied to the skin, irritate it, and cause a collection of serous fluid under the cuticle, thus giving rise to a blister. The chief are—cantharides, croton oil, strong ammonia, mustard, and boiling water. They are used as counter-irritants; that is, to excite inflammatory action away from a part not within the reach of direct treatment. They should be applied during all stages of vital depression, and should not be left on for too long a time, as they are apt to cause great depression, and, in the case of cantharides, distressing bladder symptoms.

Recent pathological teaching says useful to promote a renewal of life in a devitalized part, to excite a growth of leukocytes.

BLOOD.—This fluid is the great pasture field for all disease germs, and scientific investigators have now their attention directed to microscopical and spectroscopic examination of that fluid. Valuable facts, thus far, have been elucidated. The micro-organisms of cancer, syphilis and tubercle are defi-

nitely settled. The brain, the great sympathetic, all the complicated mechanism of nerve nutrition, support the belief that the disease germ, the "vibrios," is the degraded bioplasm of primary nerve molecules—that that germ is present in the blood in all stages or degrees of poverty of nerve force in all nervous diseases, from epilepsy to the most aggravated types of insanity. That all nervous diseases, as a result, are preeminently contagious and infectious—that during the exacerbation of any nervous affection, as the fit of epilepsy, the paroxysyms of mania, the germs are literally crowded in the blood. This can be easily tested by drawing blood from the neck with an ordinary cupping glass.

This teaches us the great value of such germicides as the glycerite of kephalin, phosphated tincture of oats, ozone water in all states or conditions of depreciated nerve force.

THE BLOOD IS THE LIFE.—A fair average of the number of red corpuscles of the blood in a healthy individual of average, size and weight is 5,000,000; the hemoglobulin is from thirteen to fourteen per cent.

No known remedy increases the number of red corpuscles in the animal organism so effectually as ozone, the great scavenger of germ-laden blood.

The next in succession is the cacodylate of sodium, whose action is irresistible in causing a marvelous increase of highly vitalized corpuscles. Protonuclein is next in efficacy.

Anemia is the product of action of the ptomains of nearly all microbes upon that vital fluid; ozone is the great remedy in all states in which the blood is depreciated, as in the convalescent stages of all severe illness from any malady.

BLOOD-POISONING.—Pyemia, septicemia and blood-poisoning are terms used synonymously to denote a morbid condition of the blood, attended with fever, consequent on infection from wounds; absorption of the toxins of suppuration; pus in cavities; absorption of the lochial discharge; dissection wounds, surgical operations. The blood is poisoned by the absorptions of the products of bacterial life, and abscesses form in the lungs, liver, kidneys, brain, joints, cellular tissue. Pyemia is usually an acute and alarmingly fatal malady; in rare cases chronic, continuing for months with any wound or visible injury, but accompanied with rigors, fever, followed by copious perspiration, insomnia, restlessness, and great depression.

With an abscess, small or large; with a wound or an abrasion, there is danger of a vital catastrophe, because the poison-destroying function of the liver and the poison-eliminating capacity of the kidneys are so impaired by the ptomains and leukomains, they are unable to perform their vital functions The invasion of the body with some of the pathogenic microbes is productive of it.

BODY, HUMAN.—The human body is composed of the same elements as are found entering into the composition of the mineral substances found on the earth's surface. The following is a list of the quantities of the various elements found in a human body weighing 154 pounds:

	Lbs.	*Oz.*	*Grs.*
Oxygen	111	0	0
Hydrogen	15	0	0
Carbon	20	0	0
Nitrogen	3	9	0
Phosphorus	1	12	190
Sulphur	0	2	217
Calcium	2	0	0
Fluorine	0	2	0
Chlorine	0	2	382
Sodium	0	2	116
Iron	0	0	100
Potassium	0	0	290
Magnesium	0	0	12
Silicon	0	0	2

The number of bones in the human skeleton is 246. Sixty-three of these are in the head and face, twenty-four in the ribs, sixteen in the wrists, fourteen in the ankles, and 108 in the feet and hands, each of these containing twenty-seven. The heart is six inches long and four inches in diameter; it palpitates seventy times a minute, 1,200 an hour, 100,800 times a day, or 36,792,000 times in a year, and each time launches two and one-half ounces of blood, 175 ounces per minute, 656 ounces per hour, or seven and three-fourths tons a day; the whole of the blood of the body passes through the heart in the space of three minutes. The skin is composed of three layers, and varies from a quarter to an eighth of an inch in thickness; each square inch contains 3,500 pores for the escape of the perspira-

tion, which may be compared to little drainage tubes, a quarter of an inch long, which have a total length in the superficies of the body of 201,166 feet, or a little trench to draw off the water of the body extending to forty miles. The blood of the human body weighs thirty to forty pounds, it makes a complete circulation in 110 seconds; the lungs receive in twenty-four hours 11,000 pints of blood. The hair grows in two years from twelve to sixteen inches. Man grows to twenty years and lives 100 years or more. The maximum of sleep required by an adult is eight hours. The food of man is regulated by his own experience as regards what digests well or badly. The time required to digest food of a mixed nature is three hours and one-half. Exercise, cleanliness, and a cheerful and contented mind are the best medicaments supplied by nature to secure good health and a long life.

BOILS are directly due to infection of the tissues with germs. There are always found upon the skin germs capable of producing boils and other forms of suppurative processes if introduced into the system. Ordinarily, however, the body does not suffer from the close proximity of these noxious elements, for the reason that the tissues are able to destroy, in various ways, the small number of bacteria which penetrate the skin. When, however, by any means the vitality is lowered to a sufficient degree, invasion by those parasitic microbes through a scratch, a pin prick, or any other abrasion of the skin may give rise to the multiplication of germs and the production of pus, with the accompanying swelling, pain, and suppuration.

Some of the most common causes of the tissue degeneration which renders the production of boils possible are auto-intoxication poisons generated in the body from flesh eating, the free use of fats, constipation, and indigestion. Repeated attacks of boils can be averted only by removing the cause, whatever it may be; probably maldigestion, perverted nutrition, in which there is an abundant evolution of bacteria, which produce boils and degeneration. True the vitality of the system is lowered; it enables the evolution of parasites and microbes to progress.

General depression, headache, coated tongue, fetid breath, constipation, auto-intoxication. The best internal remedies for boils is the sulphide of calcium, half a grain every hour; it destroys the bacteria, thereby lessens the inflammation, reduces the area of the boil; it liquefies the core; draws a line of demarcation, causes it to separate speedily. If the skin is not

broken, the sulphide converts it into an abscess without delay; but if it is taken early, it will cause it promptly to dry up, and inflammatory action ceases. Besides, the sulphide of calcium exerts a marked influence upon the general health, in restoring vitality, wiping out debility, keeping the blood pure, preventing the formation of others. Another excellent remedy is the ozonized tincture lycopodium in fifteen-drop doses every three hours. The only class of boils in which this remedy fails are those deep-seated, dependent upon a diabetic diathesis.

An almost exclusive fruit diet should be adopted for a few days, and the plan of making one meal of the day entirely of fruit should be followed for a few weeks at least. A daily warm bath, followed by a short cold bath, plenty of out-of-door exercise, and care to secure prompt, regular, daily movement of the bowels, are other measures of importance. A boil may generally be avoided by injecting into it a few drops of a one to twenty per cent solution of carbolic acid. Hot applications are useful in relieving the pain.

BONES.—The bony framework of the body, upon which the muscles, arteries, veins, nerves and skin are attached, is a structure of very low organization. Nevertheless it is liable to be influenced by adverse conditions, its vital integrity impaired by morbid states of the blood, by mechanical injuries, by defects in nutrition.

PERIOSTITIS.—The coverings of bones are called the periosteum, and is a fine, white, fibrous tissue, which covers the bones like the bark of a tree, for if it is stripped off by accident and by matter burrowing under it, separating it from the bone, and thus depriving the latter of its nutrition, the bone dies. The periosteum of any bone in the body may suffer a partial death, but it is more liable to occur on the subcutaneous aspect of those bones that are thinly covered, as the fingers, tibia, ulna, clavicle, and cranium.

Causes.—The chief causes are the syphilitic taint, in which case the germs give rise to round or oval swellings, called *nodes;* which is an infiltration of lymph and serum into the periosteum, or between it and the bone; tuberculi, mercury, rheumatism, which cause an inflammation and swelling of the entire length and circumference of the periosteum. It may also be due to injuries, punctures.

Symptoms.—The pain in inflammation of the covering of the bone is sharp, lancinating, very intense; if of the syphilitic

type, the pain at night is unbearable; pain still more severe if the bone is involved; tenderness; there is always some constitutional disturbance, greater or less. Fever, restless nights, mental depression. Rigors and throbbing indicate the formation of pus.

Treatment.—If seen early, before the pain changes to a throbbing, a strenuous effort should be made to avert suppuration, for that event is equivalent to the death of the bone unless well managed. Fever must be controlled with aconite, and large doses of hyoscyamus and opium, to relieve pain. Powerful local stimulants should be applied, such as immersion of the finger, or part, in water nearly at the boiling point; the application of hot alcohol, or a fly blister, or the oil of lobelia; or, try compression; apply a bandage from the tip of the finger, up, as tight as can be borne, so as to control the circulation of blood to the part. Keep it very tight, so as to be almost unbearable, and on all the time. When used, it must be before the throbbing has begun. Bowels and skin actively stimulated —the former with antibilious physic, the latter with Dover's powder. Internally, iodide of potassium, in the saxifraga compound. If rigors and throbbing have taken place, do not wait for the formation of an abscess, but open early, clean down to the bone, soak in peroxide of hydrogen, then follow with hot fomentation and poultices. An early opening, free and deep, is the only means of saving the bone from destruction. After matter has been evacuated, poultice, and then follow with ozone ointment as a dressing; if it is syphilitic, mercurial, tubercular, rheumatic, follow in with the treatment necessary for each. *Nodes,* as a result of periostitis, never form, only in syphilitic poisoning. They may be absorbed with iodide of potass, when soft, but if hard, forming an ivory exostosis, they may have to be chiseled off. Whitlow, or felon, is simply periostitis of the periosteum of the fingers.

OSTITIS; OR, INFLAMMATION OF BONE.—Inflammation of bones may arise from injuries, syphilis, tuberculi, mercury, phosphorus, rheumatism, and may be followed by effusion of lymph, breaking down of lymph, abscess, caries, or necrosis, or ulceration of bone.

Symptoms.—There is a deep-seated, severe, dull pain, with swelling of the soft parts, rigors, and a fever; if acute, the parts slowly enlarge, tenderness increases, with weight and pain. If it proceed to ulceration (caries or necrosis), there are rigors, and pain changes to a throbbing.

The treatment embraces rest, control fever, keep bowels open, and skin active; local stimulants in the form of hot packs during the day, and the chloroform liniment at night. As soon as fever is controlled, iodidie of potass in compound saxifraga; keep patient under it for some months. If rigors and a throbbing have taken place, poultice, and as soon as indications of pus formation are clear, free openings. If an opening, or several openings, have taken place, run them into one, so as to give nature as little work to do as possible. Abscess is rare, the condition being a breaking down of lymph in the substances of the bone, giving us caries or necrosis. Either of these conditions can be easily detected, by a gritty or sandy feel of the pus. In all cases general alteratives and tonics; best of diet, with an excess of phosphates, as oatmeal porridge, cream, and boiled white-fish.

CARIES AND NECROSIS.—Those two terms are used to signify ulceration or gangrene of bone—conditions that may follow inflammation, softening, molecular degeneration, and suppuration of surrounding soft parts. It is called *caries* when it takes place in the spongy bones, as the vertebræ, or the ends of the long bones; *necrosis,* when it occurs in the hard, cancellated structure, or when shaft is involved in the gangrene. There are various forms of the latter: if the shaft of a cylindrical bone dies, and is enclosed in a case of new bone, it is called osteo-gangrene; exfoliation is a term applied to necrosis, or modification of the superficial layer, which is not encased in any shell of new bone. Caries attacking bones of a spongy texture, as the vertebræ and articular ends of bones, involves a less hopeful condition of repair than necrosis; whereas the latter, being in the middle of the bone, leaves the two ends of the bone in good condition, so that repair will take place even under the most unfavorable circumstances, because it is from the two extremities that the long bones receive their principal nutrition.

Symptoms.—Inflammation of bone, with suppuration and formation of sinuses, through which matter flows in which gritty or sandy particles can be detected—bony granules. Introduce a probe through one of the openings; the bare, dead bone, or its exfoliated, or broke-down portions, can be detected. Discharge very fetid; disease very chronic, and usually great constitutional disturbance.

Treatment.—If the parts admit of it, run the sinuses into one opening clean down to the bone, and wash out the cavity

with four ounces of tepid water, in which one dram of caustic potassa has been dissolved. In caries there is nothing to hope for but a healing of the bone, with deformity; whereas in necrosis, everything is to be gained by a speedy removal of diseased bone; so the above injection should be used every day, if no irritation is produced, so as to soften down the diseased structure. Poultices of linseed; enjoin rest; push a general alterative and tonic course, and a most liberal diet.

Lymph breaking down, a suppurative process established, there is found in the discharge a microbic evolution, the bacillus saphrogenes, which is found in all putrefactive changes or gangrene of bone.

All inflammatory states of bone, whether due to injuries or the toxins of disease germs, have the same evolution, where lymph is effused and breaks down.

It is present even in phosphorous poisoning, when the superior and inferior maxillary become necrosed.

In the manufacturing of lucifer matches, in which large quantities of phosphorus are used, many of the operatives suffer from its absorption, owing chiefly to the avaricious propensities of the owner.

The are two kinds of phosphorus, (1) ordinary phosphorus in sticks, yellow, luminous in the dark, has a peculiar odor, very inflammable, apt to ignite when handled, and when exposed to the air gives off white fumes, and it is the absorption of these that give a toxical result; (2) amorphous phosphorus is red in color, not luminous, in powder form, non-poisonous, may be handled with impunity and costs usually much more than the first mentioned, the poisonous form.

Safety matches, as they are termed, are tipped with a mixture of red lead, black sulphide of antimony and chlorate of potassa, and the phosphorus used in them is usually of the non-poisonous form. On close investigation of the secret working of our match factories it will be found that poisonous phosphorus is used, and the operatives exposed to its fumes, and these fumes, by a selective influence, attack the bony structure of the upper and lower jaw. The result of this influence is necrosis of those bones (the evolution of the pathogenic microbe), the lower more frequently than the upper.

In all cases the necrosis is slow, insidious, progressive and the extent of bone affected is quite considerable. The soft structures resemble scurvy, bleed freely on the slightest touch; soon the bone becomes spongy, and resembles pumice stone, breaking down and coming away in pieces.

Remove the individual from its influence, the vital force alone unaided will get rid of the dead bone, and even further, will cause a new bone to take its place, not so perfect as the original, but better than none at all.

As the discharge is a living mass, highly infectious, the oral cavity should be washed with a solution of chlorate of carbon every two or three hours and expectorated, and the patient careful that none be swallowed.

The best internal treatment for caries and necrosis is a tonic, alterative course, embracing in the list of remedies thyroid extract, protonuclein, c. p. solution of spermin, matriacaria, etc. Locally, poultices, if parts admit of it, with alkaline ingredients until sinuses form openings, and injection of solution of chlorate of carbon.

Phosphorous poisoning affords an excellent example of necrosis, and is a matter for congressional investigation.

ATROPHY OF BONE.—Atrophy of bone is marked by a diminution of their weight, size, bulk; involve the whole bone, or a part of it—one side of the bones of the face, or entire side; bones may waste to a mere shell. Atrophy may be caused by want of nutrition, nerve-supply; by disease, want of exercise; by disease, either in the bone or adjacent parts, and morbid states of the blood.

The treatment consists in removal of cause; general alteratives and tonics, with local stimulation.

HYPERTROPHY OF BONE.—It sometimes happens that one or more bones increase in length, breadth, and thickness. This may occur in any bone in the body. The deviation from ordinary nutrition, on which such enlargement depends, is rarely controlled by any drug.

EXOSTOSIS.—Is a tumor formed by the irregular hypertrophy of bone. Such tumors are hard, painless, and globular, and mostly situated on the long bones. Their structure is that of ordinary bone, but usually more dense and compact. In some cases they are porous, in others of an ivory consistence. They cause no pain unless they press on nerves. On the inside of the skull they press upon the brain, and give rise to epilepsy; in the orbit they cause the eye to protrude.

Their cause is irritation, and effusion of lymph, which becomes organized into bone.

Treatment.—If not too dense, they can often be got rid of by absorption, by alteratives, and by iodide of potassa, with the local application of the ozonized clay; when hard, of the con-

sistence of ivory, they can be cut down upon and chiseled off.

MOLLITIES OSSIUM.—Osteomalacia, or softening of the bones. A peculiar constitutional affection, in which all or a part of the bones of the body may be affected by softening, which gives rise to distressing and remarkable deformity. Women beyond the age of forty are most obnoxious to it. The pelvis is sometimes alone attacked in child-bearing women, and in some cases the limbs. The characteristic of the disease is the absence of the earthy phosphates in the bones, so that they are unusually flexible.

Associated with, or probably dependent on, this condition or the cause of it, is very remarkable nervous depression, the health hopelessly impaired, with gradual loss of flesh and strength. The urine is loaded with large quantities of phosphates; severe pain soon follows, and spontaneous fractures are liable to take place. No treatment of any utility.

In old age we meet with the opposite condition, where the bones have an excess of phosphates, owing to which fact they become extremely brittle, and are liable to give, or even break, upon the least violence.

There are also other morbid states of bone, in which certain elements are wanting, owing to special germs being present in the blood, as in rickets, bow-legs, spinal curvature, etc.; states in which the bones are soft, flexible, easily bent; conditions due to the want of the phosphates.

RICKETS.—Essentially a tubercular disease of the bones of the entire body, the spongy bones being chiefly the seat of migration of the tubercular bacilli, besides it is a disease in which the bones are deficient in their earthy constituents, and consequently lose their natural hardness; they become soft like gristle, and somewhat brittle, so that they are not only easily bent, but easily broken. The term "rickets" is usually applied to this softening when it occurs in childhood, but a similar disease also attacks adults, especially females. Rickets is a constitutional disease, and is very generally associated with a tendency to scrofula either hereditary or engendered by poor living and unhealthy influences, such as deficient ventilation and light, impure damp air, and bad food.

Rickets presents well-marked external characteristics, and a tendency to certain peculiar manifestations of disease. It most commonly shows itself in a child aged from six months to two years. The face is generally pale, but plump and broad. The head is large in proportion to the face, is flat and misshapen,

the fontanelles (openings between the bones of the skull) widely open, and the forehead prominent. The chest is flattened at the sides, and the breast bones pushed forward. The wrists and ankles are large and swollen, owing to the bones being late in development. The teeth are cut late. The bones ar soft and cartilaginous owing to the lack of the earthy constituents, hence when the infant begins to walk the legs become bent under the weight of the body, and often the spine becomes curved. This defect in the process of bone formation is the leading characteristic of the disease. The same treatment should be pursued as in tuberculosis: tonics and alteratives with a special course of glycerite of ozone, mistura guaiacol, thyroid extract, inunction with olive oil and guaiacol.

It is a disease which is perhaps more frequently acquired from improper feeding, bad nursing, impure air, and general want of cleanliness.

BOROGLYCERIDE, OZONIZED.—Ozone; Boric Acid; C. P. Glycerin.

A chemical compound, powerful germicide, hemostatic, prevents and arrests fermentative and putrefactive changes.

Its use is indicated internally and locally in nearly all microbial diseases.

When the cutaneous surface becomes invaded with the microorganisms of erysipelas; burns, eczema, lichen, prurigo and there is intense burning, tingling, itching, the greatest possible relief is immediately experienced, and the microbe killed, by the application of a lotion of two ounces of boroglyceride to the pint of tepid water, kept constantly moist, covered over with oiled silk; so with parasite skin affections. Applied to wounds, if the ordinary indications are observed, union by first intention is promoted.

Ulcers which resist the ordinary remedies are speedily cured by the application of a 50 per cent solution.

It sterilizes the *microbe syphilitica,* hence in its pure state it is an invaluable application to chancres (superior to iodol); makes a splendid germicidal injection in female gonorrhea, radically rooting out the gonococcus; besides it is of great efficacy in metria, in washing out the uterine cavity, and rendering it aseptic; of utility in metritis, endometritis, vaginitis, catharrhal states of the neck, and undoubtedly our best remedy in all form of leukorrhea. To an indurated or hypertrophied uterine neck, packing the vagina, embedding the indurated parts

into the boroglyceride past, for twelve hours at a time, effects a marked revolution in the parts.

As a mouth wash or gargle, it destroys all germs in the oral cavity; hence it is of value in all throat affections, in tonsillitis; laryngitis; in variable strengths it is very efficacious in nasal catarrh.

Its vitalizing action on the skin of the face is superb; here the boroglyceride oil, applied on retiring, removes all tan, freckles, rendering the skin soft, velvety.

In ocular affections, the boroglyceride lotion excels all known germicides in the various forms of ophthalmia. Kills the microbes of the common, acute, the purulent, the gonorrheal, and to the granular form it makes an excellent application. To this latter it is used thus: the lids being thoroughly everted, the boroglyceride heated into an oily consistency, is spread all over the conjunctival surface with a camel's hair brush. It is generously applied, readily gains access to the cracks, crevices, and into the granulations themselves.

The immediate effect is to increase lacrimation, with a painful gritty sensation, which passes off in ten minutes followed by an amelioration of all the symptoms, the granulations look pale and less prominent.

Ozonized boroglyceride is incomparable as an antiseptic and germicide, active, efficient, still innocuous to highly organized living matter—pre-eminently destructive to all microscopic life.

It has been lately demonstrated that every can of milk that enters this city has either the microbes of scarlatina or diphtheria, or of tubercle, or of syphilis, or of cancer, or of anthrax, or of typhoid in it.

The addition of a very small amount of ozonized boroglyceride to each can will completely annihilate these germs; besides, it will preserve the milk indefinitely without any organic change or fermentation, without ice being used for the purpose, in our hottest weather.

Variations in temperature in milk give rise to the evolution of tyrotoxicon, a deadly poison. All this is prevented by the use of boroglyceride in the lactiferous fluid. Milk preserved by the addition of boroglyceride is free from all germs.

As a medicament, ozonized boroglyceride is invaluable.

As a mouth wash and gargle, it will destroy all germs in the mouth and throat; renders the breath sweet, all odors disappear. From a half to one teaspoonful dissolved in half a

tumbler of hot water. It should be used first in the morning, before and after each meal; preservative to the enamel, prevents tartar formations, keeps the teeth brilliantly white.

After the ozone and chlorine has cleaned out every germ in nasal catarrh, nightly douches of solution of ozonized boroglyceride complete the cure.

A hot, saturated solution of boroglyceride applied over the erysipelous blush completely kills the streptococcus.

Dissolved in hot glycerin, and at once applied over periostitis, the germ is killed, inflammatory action ceases, for in this form it penetrates to the bone marrow.

For burns and cutaneous diseases, it is best to rub it up in ozone ointment in definite proportions.

Tepid solutions in chronic cystitis, completely wipe out the micrococcus urea—injections of the same kill the gonococcus.

In gynecological practice a pastil of ozonized boroglyceride is very popular, as it cures all forms of leukorrhea, whatever may be its cause; *heals* erosions about the uterine neck; *absorbs* indurations; *blots* out mechanical dysmenorrhea; *kills* every germ that enters the vaginal orifice; as a suppository, it *ameliorates* every disease of the rectum, cures many; it *absorbs* stricture; *heals ulcerations* and *fissures; subdues* inflammation by promoting a renewal of life in the lower bowel.

BORACIC ACID.—The only known compound of oxygen and boron, is unexcelled as an unirritating antiseptic in wounds, devoid of smell and antagonistic to the toxin of sweat; to the oidium albicans of aphthæ, micrococcus urea it is of immense efficacy; as a dressing powder, equal parts of the acid combined with pulverized starch; combined with orris root and one drop of attar of roses make a good tooth powder; lint soaked in a hot saturated solution and dried, applied to wounds, promotes union by first intention. Still more active, of more decided efficacy, when prepared as ozonized boroglyceride, then it is a microbicide of greater power, killing germs of great potency.

It is in this form that it is largely used as a food preserver to prevent chemical change in warm weather, to either delay or prevent decomposition. The quantity added to canned fish, to butter, to milk, is too great: 3 per cent or 26 grains to the pint; too large a dose for either an infant or an invalid, harmful to any one with weak kidneys, very apt to give rise to fatal results, even cautiously dealt with. In ordering milk diet for pa-

tients physicians must see to it that there is no boroglyceride in the milk and no kidney disease.

Our population suffers from poisoning from this cause much more than from tuberculosis. Cases of intoxication from this source are very common.

Ozonized boroglyceride is invaluable as a medicament, not as a food. A tampon of this agent introduced into the vagina will promptly unload a congested uterus. A suppository of the same chemical compound will in a few weeks reduce an enlarged prostate. Excellent as a medicine, bad as a food.

BOUGIES.—A flexible, cylindrical body, variable in size, to be introduced either into the urethra, or esophagus, or rectum, etc, for the purpose of either dilating or medicating them, when contracted or suffering from some morbid action. A simple bougie is composed of solid and insoluble substances, as silver, rubber, gutta-percha; they act, of course, mechanically.

Medicated bougies are usually made of gelatin, butter of cocoa substances soluble at the temperature of the body. The medicament introduced may be arbor oil, to destroy warts in the urethra and check leakages—the remedy introduced may be thallin, which annihilates the gonococcus; or it may be sulphocarbolate of zinc, which dries up all leakages in the urethra; or it may be the glucoside of the salix nigra, which effectually arrests all seminal incontinence; or it may be the solid extract of the true damiana, or the compound known as ambrosia, which inspires new life into the genital nerves, and often cures impotency. Those composed of iodol will obliterate obstinate strictures.

Stricture of the urethra is the result of irritation, inflammation, due to the presence of the gonococcus; masturbation in early life and sexual excess at a later period produce congestion, spasmodic action, effusion of lymph, stricture, ulceration.

Very prevalent, therefore, are organic and spasmodic strictures, and much of the spermatorrhea and impotence now so common are due to those conditions, states that lead to sexual incapacity.

Strictures of the bulb are more refractory than those in the deep urethra into which the seminal ducts open. In every case of seminal weakness it is well to examine for stricture up to the neck of the bladder, for there is nothing so effective in relieving

the irritation of the seminal ducts as the occasional passage of a No. 12 metallic bougie. Upon the introduction of this the drain of vital fluid often ceases, the dilated mouths of the ducts contract, semen becomes thicker, healthier, more fertile, organs increase in size, distressing nervous symptoms subside.

For effused lymph organic stricture *absorption* is the only idea which ought to pervade all our procedures, for if dilatation be tried, even cauterization and excision, there is invariably a recurrence. Absorption with or by the iodol bougie is the most successful of all modern methods, and when properly effected there is never a recurrence.

The effective method of curing all urethral diseases is direct treatment with bougies.

There is never a stricture in gonorrhea when the thallin bougie is used as a means of killing the gonococcus; there is never a stricture in spermatorrhea when the salix nigra bougie is used as a means of cure; in hopeless cases of impotency how often does the ambrosia orientalis create a renewal of life; in dwarfed or atrophied testes how frequently does rejuvenation and growth take place when the saw palmetto bougie is used daily for some months.

BRAIN.—Our knowledge of the structure and function of the human brain is very limited, especially as to the soul seat, and its various manifestations: intrinsically the most valuable structure in nature—susceptible of much modification, change, development, culture. The force which operates it is the life principle which energizes every cell and tissue in the body. The life in man, which comes from God, is the unseen force in every vital movement.

The human brain, perfect in structure, complex, highly organized, stands at the head and controls every function of the body, made up of two tissues, gray and white matter, sensient and motor; gray or cineritious on the surface; the white nerve fibres, which connect the brain with every part of the body. The surface of the brain is not smooth, but divided up by fissures into longitudinal ridges. The brain is first divided into two halves or hemispheres by a deep groove called the longitudinal fissure. The centres for all the functions of the body are duplicated, being alike situated on the surface of each half of the brain. Nerves from the centre of the left side of the brain go to the right side of the body, and *vice versa,* in each half of the brain. We have the frontal, middle and posterior

lobes. Each of these are divided into convolutions or ridges having deep furrows between them. In the frontal lobe we have the superior, middle, inferior, and ascending convolutions; in the parietal lobes we have the ascending and inferior convolutions, etc. This uneven surface of the brain gives a larger area, and hence increases the amount of gray matter or nerve cells which are located in its substance. People who have the most well-developed brains have these convolutions most marked, and the fissures are more deeply situated.

From point of localization of function we find the position grows more important as we go from the back of the brain forward, until in the foremost part we have the functions of the mind located. The prominent development of the frontal lobe is a feature which marks the development of the brain of man as above that of other animals. A lack of mentality of the individual, especially if it is inherited, will show a poor development of this part of the brain.

The brain of man is of divine mechanism, perfect formation; on it depends the healthy performance of every organ in the body; mental as well as physical. Diseases of the brain are all of vital importance, and will be the leading factors of all maladies of the twentieth century.

Brain of man, not only highly vitalized, rich in cineritious matter, but delicate, the most resisting, the most difficult to depress, or to produce a partial death in its structure of any other tissue.

In inflammation of the brain we have the origin of all cerebral disease. This condition may be induced by mechanical violence, falls, blows on the head, sunstroke; the toxins of all microbial diseases in the blood; use of stimulants, improper use of certain drugs, narcotics, great mental strain or effort, extreme emotional conditions. Reflexly the brain may suffer a partial death, by or through irritation of other organs, as the kidneys, heart, digestive and generative organs.

Easily recognized by the pain in the forehead, which is aggravated in all cases by noise, light, heat, motion; flushed face, contracted pupils in the acute form; great increase of temperature; arrested secretion; add to these, usually nausea, vomiting, stupor or delirium—later on convulsions.

It may, if the lesion be reparable, terminate in recovery; if grave, non-reparable, red ramollisment, with extravasation of blood into its substance, and with violent contortions, or convulsions, and death; or it may be guided into a chronic con-

dition, in which recovery may take place, or it may run into white remillisment, softening, and paralysis—symptoms variable with pathological condition.

The treatment of all cases of partial death of the brain requires much good, common sense. The patient should be kept in a nice, cool, airy room, free from noise, light.

The first indication is to shave the head and keep hot water constantly applied; then free purgation, aided with enemata; mustard rollers to the feet and calves of the legs; perfect rest in bed, recumbent position; then administer one grain of the solid extract of hyoscyamus every hour, well triturated in one teaspoonful of passiflora; procure sleep at all hazards.

BRAIN EXHAUSTION.—Excessive brainwork; cerebral bankruptcy.

Continual mental strain, under artificial hackneyed conditions of life, causes a tremendous draft upon the brain forces, wearing deep channels and making barren certain areas. Every thought and act requires an effort, nothing is spontaneous, bubbling up from a spring fed by a spirit living in harmony with nature's decrees, and though experience may have made such efforts second nature, the strain exists just the same, and all too soon the time comes when the cable of life, worn to a single strand, parts suddenly, and the exhausted brain is forever at rest.

The sooner our leading men get closer to nature, have less artificial, become naturalized to rest, innocent recreations, homely pursuits, which refresh the brain, furnish food for new thought, revivifying the brain, leading it into new impulses, and motives, and so enable it to go on growing and developing.

The profession must sound a note of warning against a too one-sided life. Physical salvation, perfect brain rest, may be ensured by a periodical return to first principles. Hunting, fishing, felling trees, golf, going to bed physically worn out at nightfall, sleeping in the fresh, woodland air, and rising with the sun. If all our leading men could be induced to take outings of this kind for six weeks, twice a year, there would be no more cases of heart failure or apoplexy, so far as they are concerned.

Among the highly intellectual brainworkers of our present modern civilization, and all suffering from neurasthenia, *insomnia* is very common—the brain cells being morbidly active, generally owing to the presence of some toxin in the blood.

The effect will disappear with the removal of the cause. When sleeplessness has become a habit under such a condition, from 10 to 30 drops of the ozonized extract of passiflora incarnata, three times a day, will do what no other remedy can, give nine or ten hours of refreshing sleep.

Many leaders in our profession entertain the idea that the brain, under the pressure and vices of our modern civilization, wears out sooner than under a degree of lethargy, a semi-torpid condition. Sexual excesses are undoubtedly productive, above all other causes, of a failure of brain power. The brain is strengthened by moderate activity in intellectual pursuits—not exhausted. If we scan carefully the mental horizon, we can clearly see that nearly all the failure of brain power is due to the presence of the bacillus of syphilis.

BRAIN, WIPING OUT ITS TYPICAL FISSURES.—The human race, from certain abnormal conditions, may suffer vital deterioration and the evolution of the tubercle bacilli, but even this, when it reaches its highest point of intensity, ends in non-procreation, so that no permanent deterioration can exist, no establishment of a morbid race, our stock being virtually the same as during the palmy days of Greece and Rome. Still, there are elements at work which tend to depreciate, lower, nay, efface the typical fissures of the brain.

Look at the effects of isolation, monotony, sameness, solitariness, as they exist in some of our so-called philanthropic institutions, in which five or six hundred lads are confined; every one, as time grows, loses the normal depth of brain fissure; they become shallow, and assume the non-intellectual condition of a crank, sneak, coward, knave, cur, give rise to masturbation, and finally suicidal mania.

The outcome of all is masturbation, which is sapping the very vitals of our nation, the victims of which are seen in the streets, counting-rooms, workshops, and our insane asylums are full of them; besides, it brings premature death to a considerable proportion of our population, while to others despair and suicide.

Our profession must arouse from their lethargy with keener perceptions, recognize and be prepared to treat a class of cases which simply fade away, become weaker, more nerveless and hopeless day by day, and finally drop into a grave yawning to receive them, without any other diagnostic mark.

The man or woman who commits masturbation destroys the essential elements of their being, blight their own lives; if either

be unfortunate to marry, infelicity, unfaithfulness and misery are their lot, and if they have an offspring, it will be a poor, puny, fledgling, with aged, wasted face, epileptic, choreic, imbecile, idiotic, with some form of tubercular disease.

Once the imperative law of nature be violated, the terrible vice established, lost health and vitality are the sexual, as is seen in the wasted hands, the doughy skin, the scanty locks, the blackened rings around the lack-lustre eyes, the heavy lips, the labored breath, unstable gait.

No use in any asserting that the practice is harmless, or its sufferings imaginary; no, our profession must come boldly to the front and stem the current which is undermining our nation.

Such cases can all be cured, even in their worst stages, by modern remedies and restoratives; but to procure that, a due appreciation of the affection, skill, and great tact in management are necessary.

Alcohol not only effaces the typical fissures, and induces induration of substance, precisely in the same manner as if the brain were steeped in alcohol, so that the inebriate, anticipating the anatomist, begins the indurating process before death—begins it while the brain remains the consecrated temple of the soul, while its delicate and gossamer tissues still throb with the pulse of heaven-born life. What an extraordinary infatuation thus to desecrate the God-like! What madness to dry up the fountain of generous feeling, petrifying all the tender humanities and sweet charities of life, leaving only a brain of lead and a heart of stone!

A very important pathological discovery has recently been made, in cases of suicidal mania, namely that the typical fissures of thought are almost entirely obliterated, and a general atrophy of the cineritious portion of the brain has taken place, clearly demonstrating the disease of self-destruction is a mental act, due to cerebral wreckage. The condition is identical with the brain of an habitual masturbator, or one who practices a perversion of the sexual act. Indeed, every case of suicide is associated with or dependent on either a sexual basis, or failure, or self-indulgence in some way. The mental irregularity is due to sexual chaos—the internal testicular secretion being cut off.

A man who attempts to destroy his existence is not sane, neither is his judgment sound.

This morbid condition is amenable to treatment, whether ex-

pressed or implied. Place him upon ozonized thyroid extract, once or twice daily, for some months, and administer c. p. solution of spermin thrice daily.

These two remedies, in some mysterious manner, completely overcome the suicidal tendency and bring about a healthy equilibrium. The same remedies are efficacious in all conditions of arrested development, retarded evolution, idiocy, imbecility.

BRAIN STARVED.—A tissue-starved brain is the most common malady of our age and country, and few are aware of the fearful destruction of intellect and life that are caused by it.

Softening of the brain is a justly dreaded disease, and a variety of theories have lately been laid down as to its great prevalence and cause, as adulterated food, the wear and tear of civilization, study, care, worry, struggle for existence, syphilis and sexual excesses, perversion, irregularities.

The substances of the brain and of the nervous system generally are essentially different, both in their structure and composition, from all other parts of the body, and therefore they require to be nourished in a different way and by different material from any other part. All the vital organs may be perfect, and the muscular system well developed and supported, owing to their special nutrition being complete, and yet the nervous system may be in a state of decay. It is true that decay of the nervous system is soon followed by decay of all other parts, but it may commence independently of any imperfection in them, and even while they are healthy.

The actual material or substance of the nervous system is intrinsically the most valuable in animated nature, and is almost identical with that of the seminal fluid in man and of the ovæ in woman, and its composition is also very similar.

In all probability the same vital action which calls forth the generative elements also creates, at the same time, the nervous substance. Whenever, therefore, the production or nutrition of the one is imperfect, so is that of the other. There is likewise not only a close sympathy, but a real coincidence of origin and mutual dependence of existence between these two most mysterious portions of our being. The brain and the sexual apparatus are placed at the opposite extremities of the body, like the two poles of a galvanic pile, each being connected with the spinal marrow which unites them. When one of these poles is overcharged with vital power, the other is under-

charged; and when one is exhausted, the other is soon in the same condition.

This explains at once why excessive mental exertion is often followed by sexual impotence; and why, on the contrary, sexual abuse so often destroys the intellect. Softening of the brain is an actual deficiency of some of the substances composing it, and these substances are precisely those that are carried off by the seminal discharge. When a man expends too much semen, he does the same thing as if he totally destroyed a portion of his brain, because he takes away that which is necessary to nutrify it. Nature will not produce enough of these substances to make brains and to allow of licentious indulgence at the same time.

BRAIN GROWTH.—At birth the brains of boys weigh more than girls. Men of great intellectual power have brains that weigh sixty-six ounces; while the brain of imbeciles do not average over thirty ounces in weight. The average weight of the brain of an adult is forty-nine and one-half ounces. Very many of our intellectual giants have exceedingly small brains; it is the richness in cineritious matter and depth of the fissures of thought that makes the man; quality outranks quantity at all times. The most active period of brain growth in man is between the twentieth and fortieth years; while in woman the brain attains its maximum of growth at thirty years of age. From forty to fifty slight diminution, greater between sixty and seventy. The shrinkage is quite great, decreases with the intelligence. The use of alcohol gives rise to atrophy.

Moderate brain exercise among the learned preserves the brain to extreme old age in all the fullnes and vigor of their faculties and it loses little of weight which belonged to it in the prime of life.

The occasional administration of the thyroid extract to the growing youth imparts an impetus to brain growth, an idea worthy of consideration in the imbecile; a diet largely of cereals and fish is very productive of cerebral nutrition. Our best remedies for brain growth are kephalin, avena c. p. solution of spermin.

BRAIN DEGENERATION OF THE MODERN CHILD.—Much of the defective brain nutrition of children is due to hereditary causes, the child being the victim of parental defect, the vice of intemperance, being transmitted to the offspring in

the form of cerebral malformation or neurosis. Same condition gives rise to insanity, imbecility, feeble-mindedness, melancholia, suicidal mania, and epilepsy.

Statistics show us that 20 per cent of all children who reach the second year have either in the spring or fall a sporadic attack of cerebro-spinal meningitis, often unnoticed by the parents, which has too often for a sequela a loss of hearing, terminating in deaf-mutism.

Modern adulteration of food products, alum-saturated bread, retards and renders dentition difficult and impoverishes the brain.

Besides, our school system, abnormal and defective; women teachers, reflexly stamping effeminacy upon boys, overtasking, etc.

Until recently, the medical profession had no resources, no remedies to meet and overcome this great national disaster.

Within these few years past, the thyroid extract and c. p. solution of spermin have wrought a most remarkable change in curing a very large percentage of these cases. Thyroid extract, administered to such children, increases the activity, growth, and stamina of brain substance; it has a stimulating influence over all the cerebral functions. C. p. solution of spermin acts as a brain food, exerts an inhibitory action over waste of the body.

A judicious, honest physician, with these two remedies, will seldom fail to cure all forms of cerebral disease in children, from imbecility to paralysis, from malformation to deaf-mutism. The thyroid extract to be efficacious must be in the form of an ozonized extract from young lambs, not from sheep; never dried nor in tablet form, as the two latter contain cadaveric alkaloids.

As a result of degeneracy, child-suicide is increasing, although this is chiefly caused by overpressure in education, which produces precocious development of the reflective faculties. Anticipate such states by thyroid.

BRAIN WORKERS.—Neurasthenia, poverty of nerve force, cerebral softening, paralysis and other states are the sequel of exhausted nerve force; whether by mental work or sexual excess, it brings about the state of an organ tissue-starved. Following this, glandular deposits on the arachnoid, adhesion of the emmbranes to the surface of the convolutions, crystalline granulations in the lining membranes of the ven-

tricles, with an unusual amount of fluid in the sac of the arachnoid and in the lateral ventricles are found in the brain of those who devitalize an organ. A tissue-starved brain gives rise to inflammation of the cortical part of the brain, ending in its degeneration of the nerve cells of the hemisphere, structural change in the convolutions, the cells of which lose their integrity and look like an irregular heap of particles ready to fall asunder.

The brain of man owes its healthy existence to the quantity of phosphorus it contains; if this is economized, independent of its scantiness in modern food, it might sustain him probably as long as life lasts and health holds out; but let the brain starve, health fails, nature can suppply no more; then, unless the patient can obtain phosphated food, or ozonized tincture of oats, or the animal phosphorus of kephalin, degenerative changes will take place in the gray substance of the cerebrum—the cells of that part will become granular and deposits of granules scattered through its substance—that these changes take place in all parts of the brain and spinal cord, when the phosphorus in the brain is exhausted. Brainworkers, merchants, professional men, know this; they feel it in their languor, tired brain—those are the victims of excessive brain exhaustion. How far this granular change in the nerve cell is compatible with healthy mental action, we cannot yet say. But we do say, and nothing can invalidate it, that, unless our brainworkers obtain more phosphorus, white softening, paralysis and insanity will become more common. With a high graded fluid extract of coca to stimulate cohesion, and phosphated tincture of oats, and ozonized glycerite of kephalin to supply the brain food, we have elements of true brain nutrition, the means of creating a higher type of manhood. These remedies penetrate the brain, every fibre of it, invigorate it, nourish.

This is scientific medication, positive curative for our national ills—and they are the remedies which are superseding all others in nervous or vital power.

The eminent members of the profession speak of the ozonized glycerite of kephlin thus:

This is a true brain food, a nerve-vital essence; it entirely supersedes comp. hyphophorus as a reconstructor of shattered nerve force—invaluable in all forms of loss of brain power, as loss of memory, paralysis, white softening; very refreshing to the nerves when tired by worry, when in neuralgia they cry for richer food, purer blood. Eminent authority says:

"That it invigorates the body, refreshes the mind, repairs lost sexual power. For brainworkers it is food; it increases intellectual capacity, gives a higher, holier appreciation of nature, a higher stratum, a transcendentalism in the beauty of earth, sky, sea—in the varied hues of gems and flowers, in the brightness of sunshine, in the iridescence of the rainbow, in the rippling stream, in the flash and war of storm and tempest. It replenishes the storehouse of the poet, philosopher, artist, orator, novelist, historian, divine—it soothes the tired brain, brings solace to the careworn heart, braces the unstrung nerves, gives elasticity to the weary step." *Such is kephalin.*

This nervo-vital essence is prepared thus: The phosphorus is a distillation from the natural brain of the ox, and from the best Canadian oats, wheat, and barley, and is altogether a different agent from the phosphorus of commerce; besides, the life-giving ozone is added, which is a stimulant to the molecular energy of the brain, nervous system, with a special action on the lymphatics and pink marrow; blood-forming, blood-raising glands, and especially and above all, the seat of sexual power in the brain.

"Ozone is a powerful nerve-stimulant, retards waste of tissue; vivifies, increases strength and endurance; removes fatigue and languor due to prolonged physical or mental work.

"We do not pretend to subdivide the elements of each cereal, as the oats give us a rugged stratum of brain growth; barley and wheat a finer mental vigor; one thing we are certain of is, that they contain a vast amount of phosphorus in an assimilable form, which renders them of pre-eminent value and worthy of national importance. Wherever there is a deficiency of life in nerve-tissue, give ozonized kephalin—a nerve essence. The amount of brain matter it contains is immense; if there is headache, prostration, mental strain, worry, insomnia, epilepsy, chorea, neuralgia, paralysis, hysteria, melancholia, neurasthenia, mental strain, loss of sexual power, give kephalin—give it *because* it contains blood-making force, generates life-sustaining properties; *because* it is pre-eminently calculated to support the system under the exhausting and wasting process of disease; it rebuilds and recruits the tissues and forces, whether lost in the destructive march of disease, or induced by overwork, nerve tire, debility, excesses, exhaustion; give it, because it is the most congenial, friendly, helpful remedy ever offered to the most delicate or fastidious stomach; it is ever constructive, a builder, suitable to reconstruct the most delicate."

BRIGHT'S DISEASE OF THE KIDNEYS; ITS RAPID INCREASE.—Persistent albuminuria, irrespective of its etiology, or present condition, constitutes Bright's disease.

The great increase of diseases of the kidneys of late years is in a great measure due to those causes which augment the uric acid diathesis; besides the toxins of disease germs, the debris of inflammatory action; calculi, with other excretory products; irritating action of some diuretics, etc., weaken and relax the capillaries so as to permit an exosmosis of albumin from the blood to take place.

The introduction of comp. ozonized celery extract, and its persistent administration in all kidney affections marks a new era in the rejuvenation of our race. Give ozonized celery compound in proper doses. It enters the blood, sweeps the uric acid from the system. It neutralizes all toxical products of microbic growth; flushes the kidneys, washes away all effused lymph that blocks up their intestinal structure.

The ozonized comp. celery extract is a true kidney renovator, bracing and vitalizing, operates well and favorably in all weakened or relaxed conditions of these glands, unless a decided organic change has taken place.

Even in amyloid and fatty degeneration, which are so common, the former in malarial poisoning, the latter in chronic alcoholism, the use of this remedy retards destructive metamorphosis and prolongs life. It stays degeneration, whether it be associated with atrophy or hypertrophy.

The remedy is worthy of a trial. Try it alone, or combine it with passiflora, gelsemium and digitalis. Give in simple elixir. Small doses, but freuently, are best. At all events every three hours, so as to keep the system under its influence.

In all morbid conditions, in which a micro-organism is the agent of destructive change, pathological states in which toxins the excreta of germinal growth are literally crowded into the excretory ducts of the kidneys, blocking them up, preventing elimination; it is then that the ozonized celery compound exhibits its wonderful power as a kidney scavenger. Hence its efficacy when toxins of the micrococcus of scarlet fever are dammed up in the tubules, giving rise to desquamative nephritis. It acts promptly in arresting the hematuria of malaria; in relieving the congested state of the kidneys in erysipelas, dihptheria, typhoid fever, rheumatism, pneumonia, etc.

A more general use of ozonized celery compound would do much to diminish the mortality of microbic maladies, prevent albuminuria and other complications.

BRONCHOCELE.—This is characterized by an enlargement of the thyroid gland. The entire gland may be affected, or its centre, or either lobe. The swelling is usually unassociated with pain, and causes little inconvenience, beyond the deformity it produces, unless it presses upon the adjacent parts.

Causes are very varied. It may be due to water impregnated with lime or magnesia; to tuberculi; to irritation, reflected from the organs of generation to the nerves that supply the thyroid, causing enlargement and congestion; to uterine disease, or an anemic condition of the blood.

It is a true hypertrophy and is divided into three forms, according as the vascular, glandular or connective tissues are involved.

Various etiological theories have been advanced with reference to enlargement of the thyroid gland, none of which are worthy of consideration. It is often complicated with a constitutional neurosis, in which epilepsy, chorea, diabetes play a part.

The thyroid in goitre undergoes alteration in function, as well as size, and produces a toxic substance which acts deleteriously on all parts of the nervous system, slows the action of the heart, produces mental apathy, obesity. The *old* treatment of hypertrophy of the thyroid preponderated in favor of alteratives and tonics with preparations of iodine and bromine; the modern and more successful management consists in the administration of the ozonized thyroid extract, which acts on all parts of the nervous system, clears up the mental horizon; locally, the use of the ozonized clay breaks up the interstitial effused lymph.

No irritation must be produced by its application; all attempts to localize the cause of the enlargement in the vagus and sympathetic have failed; nevertheless, all cases are much benefited by the exhibition of large doses of passiflora, with matricaria before meals.

BRONCHITIS (ACUTE AND CHRONIC). THE CONFERVA.—In all conditions of partial death of the lining membrane of the bronchi, there is an evolution of the pathogenic microbe, conferva, which, together with its toxin, gives rise to depression of the vital powers, cough, expectoration, difficulty of breathing and imperfect oxygenation of the blood.

The presence of the microbe on and in the lining membrane of the bronchi gives rise to an incessant hacking cough,

dyspnea, rhoncus, and sibilus, which later on change to large and small crepitations, with very copious expectoration; slate-colored sputum and nails, due to the imperfect aeration and toxins in the blood.

The microbe is most abundant in chronic cases, found in the sputum. It bears cultivation well in liquid gelatin; cultures injected into any mammalia give rise to irritating cough of a cadaverous sound, ropy expectoration, prostration, and death.

The microbe is imbedded in the bronchial follicles, in tufts or patches, rather difficult to reach by inhalation, but with a little tact and perseverance this is overcome.

Acute bronchitis is generally due to exposure to cold, damp, irritants, and is confined to the lining membrane of the bronchi. In a well-marked case, there is usually catarrh, rigors, fever, lassitude, debility, sense of soreness in the chest, nervousness, uneasiness, constriction of the chest, cough dry at first, but as the inflammatory stage merges into effusion, moist, but expectoration thin at first, viscid mucus, then muco-purulent, distinctly audible *rhonchus* over large trunk; *sibilant* over small tubes before effusion takes place; subsequently large and small crepitation. Deficient aeration of blood in all cases.

Administer veratrum viride and euphorbia pil., one teaspoonful of each in four ounces of water. Mix. One teaspoonful frequently until there be a subsidence of fever. At the same time, but in alternation, add one teaspoonful of passiflora, half a teaspoonful of green root tincture gelsemium to four ounces of water, and give in teaspoonful doses, as indicated, one grain of the sulphide of lime every two hours. Either a solution of muriate of ammonia or pine-tree tablets.

Take the whites of a dozen eggs, and stir in mustard sufficient to make a plaster nine by five inches, and apply and retain over the anterior portion of the chest, otherwise same treatment as the chronic form.

Chronic bronchitis may be a sequel of an acute attack, and then it is designated simple, but if the diagnosis reveals either the toxins or the active microbe of syhpilis, tubercle, gout, rheumatism, cancer, mine dust, cotton, it must be so classified and treated, as one or other of those conditions exist.

In the chronic form, much irritating cough, with expectoration of viscid muco-purulent matter, often greenish; great tightness of the chest, emaciation, debility. If not complicated by tuberculosis, lungs clear from apex to base.

The treatment of chronic bronchitis requires skill and con-

siderable tact as to the proper remedy to be employed, but an excellent selection might be made from the following list: two being used, one alternately with the other, as yerba santa and coca et celerina, operate well for a week; then pine-tree syrup and tablets alternated with chloride of ammonia; then kephalin and prunia do well in alternation; avena sativa and sumbul, with a general alterative and tonic course; saxifraga alternated with mineral acids and cinchona.

In the adaptation of remedies to any one given case, as to cause, if there be tubercle, mistura guaiacol; if syphilis, saxifraga; if mercury, iodide potass; if rheumatism, uric acid solvent and glycerite of sulphur.

In old obstinate cases, great good results from the administration of either tannic acid or the following: acetic syrup of sanguinaria, acetic syrup of lobelia, of each four ounces, to which add four drams each of chlorate of potassa and pulverized alum. Mix. Dose, from one-half to one teaspoonful added to water every three hours. Comp. oxygen is often of utility.

Inhalation is of great efficiency in bronchitis. Take one or two tablesspoonfuls of formalin to one pint of water, add thymol, menthol and chloride of ammonia, a few grains of each. The instant this spray is brought in contact with the living tissue, the formalin is liberated and every microbe on the bronchial mucous membrane is killed and a renewal of life in the tissue is established; cough expectoration, diminish and disappear. The same formula, by inhalation, arrests the paroxysms of whooping cough and asthma—it is invaluable. Inhalation of other microbicides, such as chlorate and permanganate of potassa, guaiacol, sulphate hydrastin, distillate of the pine needles, iodol, in a steam atomizer several times daily, cause the rattling râles to disappear speedily and respiration to become normal.

Great difficulty of breathing is often relieved in the acute form by hot fermentations; in the chronic form egg mustard or guaiacol plaster.

Nutrition generous.

Eminent authority says: Neurasthenia acts as a predisposing, and local irritation as an exciting cause of bronchitis, met with in two forms, acute and chronic. In the former there is fever, pain, heat, redness, swelling, an evolution of the microbe conferva, which can be found in the frothy mucus or mucopurulent sputum.

In the chronic form there is an effusion of lymph, which

produces thickening in the different coats of the bronchi, owing to which the tubes are usually constricted; but in other cases there is dilatation with pouches. In both the acute and chronic form there is invariably cough, difficulty of breathing, an impending sense of suffocation.

Once the bronchial structure is weakened, any microbe which may be accidentally in the blood will aggregate there, localize and impart to the bronchial lesion a type, a characteristic wholly its own.

Bronchitis is essentially one of our maladies. Best treated by an alcoholic vapor bath, rest in bed, local stimulation over the bronchi so as to stimulate leukocytosis. Even protonuclein may be tried. The best medicament in acute bronchitis is the euphorbia pilulifera, one teaspoonful added to four ounces of sweetened water, mixed. One teaspoonful of this repeated every ten minutes until temperature and pulse are normal, the difficulty of breathing relieved. But the cough, for which give one pine-tree tablet every hour.

With this treatment we make short work of bronchitis. Gradually leave remedies off as symptoms subside.

Euphorbia is immense in the acute form, and exceedingly valuable in the chronic.

Although in this latter form, an alterative (saxifraga) and a tonic (matricaria) are indicated in all cases, allay cough with the pine-tree tablets.

The varieties of the chronic form are numerous. The *tubercular* must be treated with the glycerite of ozone, mistura guaicacol and creosote, and the pine-tree tablets for cough. The *syphilitic* with that invaluable alterative, saxifraga. The *cancerous* by the Chian turpentine mistura, with the pine-tree tablets for the cough.

The difficulty of breathing, the sense of suffocation, that goneness incidental to bronchitis are promptly relieved by these tablets. Even reflex and winter cough are amenable to their use.

Quite an extensive experience in the treatment of bronchitis in children has taught me that persistent stimulation over the chest is of vital importance, especially if there be much dyspnea. The very best form is to bathe the child well, dry off, then rub the entire chest over with sweet olive oil, then rub into the skin of the child's chest in front, under the arms and between the shoulder blades concentrated ozone. This must be done gently and by the fingers. It is important that it be

well rubbed into the skin. Simultaneous with this, the cough becomes easier, expectoration more free, dyspnea less—a most remarkable change is brought about. It can be repeated if necessary.

BRONCHO-PNEUMONIA.—Inflammation of the smaller bronchi and patches of the lung often comes on as a sequel to croup, measles, or acute bronchitis. The febrile disturbance is greater, and there is more lividity, otherwise the symptoms are those of acute bronchitis. It is most commonly met with among children, and is often fatal.

BRUISE, OR ECCHYMOSIS.—A painful and livid swelling at or near the surface of the body, which is caused by external violence, as a fall or blow inflicted by some blunt object. It is met with in most cases of contusion, and also with fractures and dislocations, and is caused by the rupture of blood-vessels and the pouring out into the subcutaneous soft tissues of blood or blood-stained fluid. Bruises vary very much in extent, color, size, and situation. In the slightest form there is a small and superficial patch of a light- or dark-red color, and attended with very little swelling. In the most severe cases a soft swelling is formed as large as a child's head, or the whole of a limb is swollen and of a black or dark-blue color. The rapidity with which a bruise is formed varies according to the situation of the injured part. Where the skin is in close proximity to subjacent bone, and is bound down by unyielding tissue, the blood is effused slowly, but in a blow upon the eyelids or upon the breast a large livid swelling is rapidly formed. In fractures of the bones of the leg and forearm there is often extensive bruising, which is associated with the formation of large blebs on the surface of the skin, which are distended by black or purple fluid. In contusions of the scalp in children a large circumscribed collection of blood is often formed under the skin; this is usually soft at the centre and very hard at its margin, and feels very much like a depression in the skull. Sometimes in cases of contusion the bruise does not show itself at the part actually injured, but at some distance from this. A large bruise when fully developed is of a purple color, mottled with yellow and greenish-yellow patches. As the blood becomes absorbed and the bruise fades, the purple gives way to changing shades of brownish-red, green, and light yellow. These changes commence at the margins of the bruise. The

rapidity with which the disappearance takes place varies. The effused blood, even in very extensive bruises, is usually wholly removed by absorption, but occasionally a collection of fluid blood caused by an injury to an unhealthy individual, instead of becoming absorbed, sets up inflammation in the surrounding tissues, and forms an abscess, which bursts and discharges unhealthy, ill-smelling matter or pus mixed with soft clots of blood. In the treatment of recent bruise, the first object is to check further effusion of blood. This may be best done by applying cold, and by elevating, if possible, the injured part above the level of the body, in order to retard the circulation. If the bruised parts be very tense and painful, some leeches may be applied near the margins of the dark-blue patch. After the acute stage of pain and heat has passed off, the treatment should be directed so as to favor absorption of the fluids and to remove the swelling; for this purpose the most useful agents are the tincture of arnica montana, a lotion composed of two ounces of spirits of wine to twelve ounces of water, or a solution of sulphurous acid. The large transparent blebs which form over very extensively bruised surfaces should be pricked with a sharp needle, and then covered over with cotton-wool, which will absorb the dark-colored fluid which is thus allowed to trickle away.

BURNS AND SCALDS.—A partial or complete death of a portion of the body to which excessive heat is applied; burns being caused by dry heat, or strong acids, or alkalies; whereas scalds are the result of moist or fluid heat—the instant either is applied, living is degraded, microbic growth supervenes.

There are several classifications, the simplest being erythema, vesication, ulceration.

Many dangers attend every grade of burns. The shock, the local irritation may be transmitted to the medulla oblongata, and there may be intensified reflex action, spasms, convulsions; danger from the arrest of the sensible and insensible perspiration, which may give rise to congestion of the serous membranes of the brain, of the chest, abdomen; danger from the process of suppuration, toxins, disastrously implicating the blood and brain.

Whatever be its nature, superficial or deep, overcome collapse by the administration of diffusible stimulants and promptly relieve pain.

All local remedies must be stimulating and strongly endowed with microbic properties.

The jelly of violets, painted over any burn or scald, in any one of its three degrees, promptly establishes complete resolution, perfect freedom from pain. This is the best of all local applications, but may not be at hand when required.

Bicarbonate of soda, always at hand, either in powder or made into a paste and applied to the abraded surface, covered by compresses to exclude the atmosphere, often answers a valuable purpose.

An excellent application, if procurable and burn extensive, is water, one pint; tincture of cantharides, one teaspoonful; formalin, one ounce. Mix. Applied by simply saturating cloths, compresses, or bandages, to exclude the atmosphere. This can be worn without changing for several days, kept saturated, and subsequently an ointment of either ozone or marigold or thyme, applied and continued, changing twice daily till healed.

We do not endorse the use of clay, white-lead paint, lard, and flour, cotton-batting, albumen, and the like.

Burns received from alcohol, caustic potassa, and other alkalies are best treated at first with free saturation with vinegar, later on with olive oil and carbolic acid. Strength, ten of the former to one of the latter.

Burns received from acids should be freely deluged with water.

BURSÆ.—Small membranous sacs, situated about joints, lying under tendons, their function being to oil and lubricate the parts over which the tendons play. Pressure, bruises, sprains, irritation of all kinds, cause them to secrete immensely. They become oval, or round, and very large. A removal of the cause, the source of irritation, and the application of the concentrated ozone speedily cause their disappearance. When, however, tubercle is a denizen of the blood, matters are very different.

CACHEXIA, or DIATHESIS.—A characteristic appearance which the body assumes after exposure to the ravages of certain diseases for a long period. The patient is very pale and anemic-looking, complexion generally sallow, and there is usually emaciation more or less marked. It is very common in those who have been exposed to the malarial poison for a long time, even though they have never had an attack of malarial fever. In cancerous, tuberculous, and other chronic wasting diseases cachexia is usual.

CACTUS GRANDIFLORUS.—A saturated tincture, prepared from the root, leaves, flowers, of the night blooming cereus. Dose, from a few drops to 20 or 30, added to water; administered every three hours; of utility as a tonic in heart failure. In sexual exhaustion it gives speedy relief, for it strengthens the cardiac plexus of the sympathetic, and improves cardiac nutrition.

The glucoside, in one-fiftieth to one-hundredth of a grain in pill form is the most reliable form in which to administer this remedy.

The active priciple of this remedy (the glucoside) exerts a powerful tonic action upon the heart, less so upon the blood-vessels. The precise therapeutic action is a tonic in all cases of heart failure. In weak heart, in all embarrassments of the circulation dependent upon a central cause, this remedy acts directly upon the weak organ. Our clinical experience with this drug is, that after it has been administered some time, the patient experiences a sense of well-being; the oppression which has so long haunted him diminishes, respiration becomes better, pulse regular, fuller and stronger. There is, so to speak, a greater filling of the arterial system. The cardiac area becomes normal, edema, if it exists, lessens; the volume of the liver diminishes; symptoms of pulmonary statis disappear. The cardiac impulse is increased, the sounds become audible and the rythim more regular. Besides, it always increases the urinary secretion, nearly doubles it, and albumin, if present, disappears completely. It is a true cardiac tonic, indicated in all cases of a weak or irregular action of the heart. It is best administered in pill form in dose of 1-100th of a grain thrice daily.

CADMIUM (*Sulphate*).—Dose: From ½ to 5 grains to an ounce of water locally, every three hours. Whenever lymph has been effused, and we are desirous of absorbing it, as in opacities of the cornea, chronic ulcers, indurated glands, stiff joints; not so efficacious as the clay.

The iodide of cadmium possesses the same properties.

CÆSARIAN SECTION.—A dangerous obstetrical operation by which the child is taken from the womb by means of an incision through the abdominal wall. It is only justifiable in those rare cases in which, from deformity, death of the mother, or great size of the child, there are no other means of saving the child or the mother.

CALLOSITY.—Hardness, induration, thickening, often assuming a horny consistence, the ordinary results of pressure, old ulcers, from repeated failures in the process of cicatrization, take on callosity, especially around their edges.

Alkalies, especially a lye poultice, wipes out degenerated tissue.

CALCULUS.—A concretion of inorganic matter forming in one or other of the organs or tissues of the body, and from its hardness and other characters resembling stone. Calculi are named from the parts of the body in which they occur—*salivary,* in the salivary glands; *biliary,* in the gall-bladder or bile-ducts (commonly called "gall-stones"); *intestinal,* in the intestines; *renal,* in the kidneys, and *cystic,* or *urinary,* in the bladder. It will be noticed that the calculi form in each of these cases in connection with one or other of the secretions, the urine, bile, etc.; and in their formation is due to an excess of inorganic solid material in those secretions.

Calculi biliary are generally found in the gall-bladder, more rarely in the liver and branches of the hepatic duct.

The principal ingredients of gall-stones are cholesterin, chlorate of soda, carbonate of lime, and magnesia, together with bile salts, and granules, precipitated, which combine to form concretions or calculi. Their number in individual cases vary much (single ones being rare), from a few up to several hundred; in size from a pin's head up to a goose-egg; in form, globular, ovoid, pear-shaped; when numerous and pressing against each other, become variable in form, usually have numerous polished facets. They may be solid, or hollow, the former being the most common; in color, a light or dark brown, sometimes greenish. Gritty sand-like deposits in the excretory ducts of the liver, consisting of minute calculi or powdered form of cholesterin, colochrome, biliary acids, constituting biliary gravel.

The chemical constituents of biliary calculi are 80 per cent of crystalline cholestrin, the coloring matter of bile, bile-resin, lime-salts, mucus, epithelia, biliary acids, margarin and traces of iron.

All gall-stones in their initial state have a nucleus, and later on an external crust or shell—the intermediate portion is often wanting. The nucleus or centre of attraction may be crystals of cholesterin, cholate of lime, mucus, distoma, blood-clot or worm, foreign body. Most nuclei are formed in the

hyepatic duct; the general make-up of the calculi consists largely of decomposed bile, with the external crust of pure cholesterin, which varies in tickness from fine tissue-paper up to quite a considerable degree.

The gall-bladder in which those calculi form may be normal in size, or it may be distended, or enlarged or sacculated—usually its walls are thickened, affording evidence of catarrhal inflammation, or fibroid contraction, or calcareous degeneration.

Anything that interferes with or retards the functional activity of the liver, as solar heat, malaria, alcohol, tobacco, fatty, starchy saccharine food; anything which will prevent a due decarbonization of the blood by lungs and skin, as a monotonous life, solitariness, confinement, sedentary habits, tight-lacing, pre-potent influences, which render the liver sluggish, bile thick and black—long retention in the gall-duct, and its crystallization into calculi.

Gall-stones may be presumed to exist when there are dull pains about the liver, shooting to the shoulder; when symptoms of ill-defined malaria are present; gastric disturbance, nausea, attacks of vomiting, yellow skin, copper taste in the mouth, fetor of the breath, brown-coated tongue, yellow tingue of the conjunctiva; pain in the back of the head, right shoulder, and hips; loss of appetite, indigestion, constipation, and, reflexly, vertigo, specks and spots before the eyes, stupor, prostration.

They are almost certain to exist, when there are sudden seizures of excessively severe pain in the right side, beneath the border of the ribs, accompanied with nausea, vomiting, jaundice, showing that some obstruction exists to the flow of bile; absolute proof is wanting, unless the stones are found in the stools; still the diagnosis of the passage of a moderately sized stone from the gall-bladder into the duodenum may be pretty accurately made out by the following well-marked symptoms: Nausea, indigestion, a sudden seizure of pain in the gall-duct, profound prostration, a doubled-up position; pain moves and instantaneous relief the instant it drops into the duodenum.

CALCULI, URINARY.—These concretions are found in the kidneys, bladder, and follicles of the prostate gland; when found in the ureters or urethra, they have floated there from the other parts. Calculous disease is much more common in males than in females, probably owing to the anatomical character of urethra; in women, being short, from one and a quarter

to two and a half inches long, and very dilatable; whereas, in men, it is long, and not dilatable to any great extent. The cause is the uric acid, phosphatic or oxalic acid diathesis; so that these concretions are usually found to consist of uric acid, urate of ammonia, fusible calculus (phosphate of lime, magnesia, and ammonia); mulberry calculus (oxalate of lime), carbonate of lime, and, very rare forms, cystic and xanthic oxides.

Calculi may consist of only one substance, or be made up of layers of different salts; they may vary in size from grains of sand-like bodies to gritty gravel, up to the size of an orange; once a nucleus being formed, they increase in size by aggregation.

Small aggregations, or stones in the kidney, if not much larger than a kidney-bean, may pass from the pelvis of the kidney into the ureters, and thence into the bladder. The suffering which takes place in the transit of the stone is very great, and popularly known as an attack of gravel. As soon as calculus reaches the bladder, instant relief.

Urinary Calculi—gravel, renal calculi, and ston e in the bladder.—These are all concretions varying in size and number forming in some part of the urinary apparatus. In the kidney they may cause inflammation, abscess, and even death. If they pass from the kidney into the ureter they give rise to symptoms similar to those of gall-stones, with the addition of the characteristic symptoms of frequent micturition. The immediate treatment is large doses of green root tincture gelsemium. In the bladder they may become very large, often weighing fifteen or sixteen ounces. Large stones in this situation can only be got rid of by operative procedures. These operations are of two kinds—*Lithotrity,* or crushing of the stone within the bladder by means of special instruments; and *Lithotomy,* a cutting operation by which the stone is removed through an incision into the bladder. The operation performed depends greatly on the surgeon who operates, but the crushing operation is coming more and more into favor. Urinary calculi vary in their composition and appearance. In order of frequency, uric acid, oxalate of lime (the "mulberry calculus"), triple or ammonio-magnesium phosphate, phosphate of lime, and mixed calculus, are the chief ones met with. The dissolving of calculi in kidneys by means of remedies administered orally is rather a lame affair, although occasionally successful; the ozonized uric acid solvent, infusion of hydrangea and saxifraga are

the remedies that have met with success. One thing is certain, if they do not effect disintegration of the calculi they certainly diminish their size.

CANNABIS INDICA.—Indian hemp in all its forms is a valuable sedative, but administered in excess acts as a powerful narcotic. It therefore resembles in its action alcohol, opium, and other narcotics which are attended by excitement, intoxication, and, finally, narcosis. It is a powerful aphrodisiac. It is useful in neuralgia, migraine, renal and hepatic colic, and in dysmenorrhea as a means of relieving pain and spasm. As an hypnotic it is used in acute mania and delirium tremens. Continuous headache often yields to it. It has also been given in hydrophobia and tetanus. *Dose*—of the extract, one-quarter to one grain. Of the tincture, five to twenty minims.

CANCRUM ORIS.—The evolution of the oidium albicans, on the mucous membrane of the mouth, fostered, aggravated and intensified by overcrowding, insanitary conditions, sewer-gas poisoning; the patient an ill-nourished, debilitated child, often the victim of some other malady. If not seen to promptly it assumes either a phagedenic or gangrenous form, and causes great destruction of tissue, with an intense odor. Usually great constitutional disturbance, and death is apt to follow from exhaustion.

Treatment.—Most nutritious food, skin and bowels stimulated. Either peroxide of hydrogen, or solution of chlorate of carbon are excellent. Echinacea, concentrated tincture, ozonized, one of the best remedies for use as an internal antiseptic.

CANTHARIDES.—Used locally in any of its varied forms as a local stimulant, is one of the best of all external agents to excite leukocytosis, and it is this property alone that has rendered it invaluable in paralysis and baldness. Not used now as a vesicant or irritant—that idea has exploded itself—modern scientific thought calls simply for erythema, to produce leukocytosis.

CAPSICUM ANNUUM.—A powerful, diffusible stimulant, beneficially used in rheumatism, paralysis, sciatica. One dram of the oil to four ounces of alcohol; makes a good liniment.

The compound tincture frequently repeated in doses of one teaspoonful in hot tea.

A gargle of salt, capsicum and vinegar is of great value in sore throat.

Cotton medicated with a base of capsicum is an excellent local stimulant; it can be applied and prolonged indefinitely without any deleterious results. It contains no injurious or poisonous substance.

CARRIERS OF CONTAGION.—All domestic animals, and household pets, so called, possess an affinity to become infected with microbes peculiar to the human race. Placed under unnatural conditions of life, as are entailed upon them by indoor life, they become diseased and short-lived; besides they, one and all, become the carriers of disease germs, such as tuberculosis, pneumonia, diphtheria, variola, etc. They are a fruitful, but too often an unsuspected source of contagion and infection.

The many millions of canaries over our entire country disseminate tuberculosis; parrots spread the pneumococcus; doves, rabbits, cats, mice, distribute the streptococcus of diphtheria in all directions; rats carry the plague. The same danger exists in fowl-roosts near a dwelling.

In truth, a home is safer, freer from disease germs, and insanitary conditions, without any of those pets.

Insects, such as the ordinary house-fly, are a frequent carrier of the bacilli of typhoid fever; the mosquito, the malarial germ, and other small fry carry about with them and distribute among the human family many more ills and evils than we would be willing to recognize, leaving the question of harboring them entirely out of discussion.

CARBOLIC ACID.—Phenol is obtained from coal tar and is a valuable antiseptic and deodorant. One great disadvantage to its use, it is highly poisonous, rapidly causing paralysis of the heart. It is, however, destructive to all microscopic life, arrests fermentation, and precipitates albumin.

In high dilutions, taken internally it checks diarrhea and vomiting. As an external remedy it is largely used, as a dressing to wounds. Inhaled from an atomizer, it has been found useful in *hay asthma, chronic bronchitis, gangrene of the lung and influenza.*

An ointment has been used in parasitic skin affections, but there is always danger in its use.

CARBOLATES.—The sulphocarbolates of ammonia, calcium, sodium, zinc, singly or in combination, are remarkable microbicides and disinfectants. Administered to children, from one to two grains; to adults, three to four grains every three or four hours, either added to water, dry on the tongue, or inserted into the rectum, are perfectly innocuous, but at the same time so powerful germicides that they will destroy all disease germs with which they come in contact, such as the oidium albicans, the streptococcus of diphtheria, the microbe of smallpox, the bacillus of typhoid fever, the micrococcus of erysipelas, the microbes of boils.

All combined, or singly, when introduced into the blood, renders that fluid aseptic, a habitat into which no germ will enter while the patient is taking it.

The sulphocarbolate of zinc is made into an ozonized urethral bougie and, in troduced into the urethra, checks all seminal and gleety discharges.

CARBON CHLORATE.—Dose: Five grains, added to some alterative syrup or water, every three hours. Specially indicated in cancer, syphilis, tuberculi, all fevers, and whenever there are disease germs in the human blood. This remedy has acquired a world-wide reputation in the cure of cancer. Its high repute is well merited. It is introduced into the ozonized saxifraga and phytolacca, to render those invaluable alteratives most extremely efficacious as a germicide in the radical cure of all morbid states of the blood. Locally, it can be introduced into all cancer plasters, being compatible with extracts of sheep sorrel and red clover tips, with bichloride of mercury, arsenic, chloride of zinc plasters, and the chloride of chromium, ozonized.

CARBUNCLE.—A microbic malady due to malnutrition, the toxins of the microbe giving rise to embolism and sudden death. Invariably associated with a broken down, vitiated state of the blood.

There are many remedies of great value in carbuncle, or boil, but it is doubtful whether modern therapeutics have supplied one so efficient as the ozonized tincture of lycopodium. It not only wipes out the germ in the blood, in the sebaceous sac in which it has aggregated, but it corrects certain pathological conditions which aid bacterial evolution and promote hepatic activity.

It is a morbid condition which requires powerful and energetic treatment. If surgical, a crucial incision at once; if a topical treatment to follow the incision, no remedy can excel the jelly of violets over night and ichthyol during the day—the former an effective local anesthetic, or sedative, relieving all pain and irritability, a remedy that succeeds admirably in any case. The latter I have found it good practice, if there be much induration around the base, to apply either pure or in the form of a jelly; ichthyol jelly all over the hardened base, up and over the crater-like summit. Apply twice daily, with the violet jelly over night. This treatment destroys all microbes, removes necrosed tissue, and promotes rapid cicatrization.

Ozonized tincture lycopodium in fifteen-drop doses, added to a glass of water and taken every three hours, is an excellent germicide in all cutaneous affections, its use at the present being much neglected.

CARCINOMA.—Cancer may be defined as a morbid condition of the nervous system in which the bacillus of cancer is evolved in the blood, and assumes the diagnostic heart-shaped, spindle-shaped rods.

They originate from degraded bioplasm, or irritated protoplasm. Such irritation may be either direct or indirect, through the medium of the central nervous system.

If there be no local weakness, or irritation, this microbe may exist in the blood indefinitely, poisoning the streams of life, but when any part is damaged, or weakened, blood-vessels relaxed, the microbe passes by exosmosis through its walls, into the adjacent parts, in which it grows with varying degrees of rapidity, depending a good deal upon the amount of local depression, and on the presence of certain adventitious substances.

When this bacillus is exuded, or deposited, or effused into any part, *pain,* of a sharp lancinating character, occurring in paroxysms is present—the intensity of the pain, its frequency of occurrence and duration depend upon the amount and activity of the microbe.

The lymphatics, in close proximity to the germ mass, tumor or infiltration, affords an excellent criterion, index or barometer of the malignancy of the bacillus.

Germ aggregation, or tumor receives different names according to its composition—presence of certain constituents; *scirrhus,* when the germ is tangled up in fibrous tissue;

medullary, soft like brain, consisting almost exclusively of cancer cells; *sarcoma,* fleshy; when thrown out with a large network of blood-vessels, fungous hematodes; *epithelioma,* where skin and mucous membrane meet; black pigment, melanotic.

The bacillus of cancer in the blood is best recognized with a high microscopic power of 2500 diameters, heart and spindle-shaped forms, ovoid bodies, arranged in pairs or heaps, their length being a fourth less than a blood-corpuscle.

The microbe is pathogenic of all forms of carcinoma, bears culture well on coagulated blood kept at the temperature of the body.

Cultures injected into animals give rise to a typical form of cancer. It is therefore highly contagious and infectious, very prevalent among our domestic animals, in precisely the same forms as the human being.

The microbe is difficult to sterilize and annihilate.

Its local destruction should be effected either with chloride of chromium paste; or ozone paste; resorcin ointment; lactic acid c. p. liquid chloride of chromium.

The bacillus in the blood should be sterilized with either saxifraga, phytolacca, Chian turpentine mistura, glycerite of sulphur, dioxide of hydrogen, red clover.

The diagnosis rests chiefly upon the paroxysmal attacks of pain of a sharp lancinating character—slight in degree and at long intervals apart, if few micro-organisms be present; but if there be a very large aggregation of germs present in the infiltration or swelling, the pain is intense and of frequent occurrence—if the cancer be open, a sense of soreness or rawness also exists; if the colony of cancer germs be in the chest or abdomen, pain anterior and posterior over the part.

When this pathogenic microbe is present in the blood, it gives rise to anemia, pearly conjunctiva; sallow, dry, husky skin; an indefinable sense of debility or goneness; very irritable heart; clay-colored stools. Cancer microbes in the breath and discharge emit a peculiar odor resembling the hydrosulphate of ammonia.

Prognosis.—In forming a prognosis of any given case of cancer, we must bear in mind that, up to the present date, the tendency of all cases is to death—that the medullary form, being acute, is especially malignant and rapid in its course—that all cancerous growths are more rapidly fatal when such vital and vascular organs as the stomach, tongue, uterus,

rectum, are the seat of deposit. The size or degree of enlargement of the lymphatics in closest proximity to the infiltration is the best criterion to go by; if they are no larger than a pea, the future progress of the case under ordinary bactericide remedies is likely to be favorable, *whereas,* if they are as large as a pigeon's egg, decidedly unfavorable.

As cancer is a microbial affection it is necessarily both contagious and infectious.

The indications of treatment of all cases of cancer are to either destroy the bacillus in the blood; to correct the defect by which the neoplasm is evolved in the blood; to build up vital force, and if there be an infiltration or tumor, get rid of it either by the local or internal exhibitions of bactericides.

In the observing of these indications the general health must be improved by every means: change of locality; daily baths, plain and medicated, with either iodine or nitromuriatic acid; bowels should be kept regular; appetite stimulated and a diet rich in all the elements of blood should be the standard—even the use of either malt liquors or wines, at meals, is to be commended; if indigestion prevail, ozonized pepsin and other digestive ferments administered.

There are a few bactericides which, when administered internally, have a marked destructive action upon the microbes in the blood; two of those should be selected and given in alternately appropriate doses, say for one week, and two selected for the following week. Those which act most energetically to be preferred; our best remedies are comp. saxifraga and phytolacca, ozonized Chian turpentine mistura; condurango, glycerite of sulphur, dioxide of hydrogen, resorcin.

With regard to local treatment, if the aggregation of germs be small, skin sound, not discolored, an effort might be made by the endosmosis of remedies to either sterilize, kill, and absorb the mass. For this purpose some one of the following might be selected, and applied either continuously or in alternation, viz.: Belladonna ointment and salicylate soda; boroglyceride and papoid; ozone ointment and resorcin; succus phytolacca, red clover, sheep sorrel; a plaster of clover root and hydrastin, with chromium, ozonized iodine; siegesbeckie; even spraying with peroxide of hydrogen.

All cancerous infiltrations or tumors, if not removed by some of the above or other methods, must be removed by a bactericide sufficiently powerful to destroy the germ colony, either by uniting with it, or oxidizing it, and causing a line of

demarcation to form between the healthy tissue and the cancerous mass; such a process is effected by the chloride of chromium paste; or ozone paste, lactic acid.

The use of arsenic, chloride of zinc, platinum, bichloride of mercury and other escharotics is now discarded by all scientific specialists.

CANCER OF THE ARM.—When an effusion of the bacilli of cancer takes place on the arm, shoulder, leg, etc., its location permits of the most energetic course of treatment. Either the chloride of chromium or the ozone paste should be applied fresh every morning until it drops out entire. During this process the adjacent parts should be carefully protected, and the sensibilities of the patient blunted by the administration of the comp. conium pill.

If it does not drop out freely, the roots or prolongations should be touched with a camel-hair brush, dipped in a little of the same paste made liquid by adding a few drops of water. If the cavity is large, strips of salicylate plaster should be applied over it, so as to aid rapid cicatrization. Ozone ointment makes a useful dressing for all cases.

CANCER OF THE BREAST.—Most common among ladies nearby, and during and after the change of life; more rarely met with among men, and when it takes place in the latter sex, generally a scirrhous infiltration around the nipple due to the irritation of the buckle of the suspender.

The left breast of the female being the weaker, covered freely with the sympathetic, the bacilli make an entrance into it and breed with a rapidity corresponding to the vital integrity of the part. All forms of cancer are met with here, epithelioma of the nipple, scirrhous and medullary.

Easily diagnosed by the pain, enlargement of the lymphatics in the axillæ, numbness of the arm of the affected side, retraction and oozing from the nipple, cachexia.

Constitutional treatment with bactericides,—if small, remedies by endosmosis to kill and absorb the germ; if tumor is large, it must be removed with chloride of chromium or ozone paste, blunting the patient's sensibilities with comp. conium pill.

CANCER OF THE EYE.—Usual treatment constitutionally; small tumors may be got rid of by going round it with a pen dipped in the supersulphate of zinc, touching the parts daily but lightly, producing no irritation. In the interim applying lotion of boroglyceride, when it drops out.

Patches on the forehead and face may be removed in the same manner.

CANCER OF THE LIPS AND FACE.—Careful removal with either the chloride of chromium, or ozone paste; or with the supersulphate of zinc, going round it every morning. After it is completely removed, one or two or more hair-lip pins to keep the parts in apposition and promote cicatrization.

Usual internal treatment.

CANCER OF THE ESOPHAGUS.—Digest the cancerous infiltration of the circular rings by the introduction of a paste of boroglyceride and papoid in a strength suitable for the purpose.

CANCER OF PENIS.—As cancer is both contagious and infectious, it follows that men having sexual congress with ladies, who either have the cachexia or, worse still, who have a cancerous infiltration of the neck of the uterus, the germs during coition are apt to migrate from the microbe-smitten uterus to the corona glandis, which is one of the most sensitive, highly organized and actively absorbent tissues in the whole body.

Nearly all cases of cancer of the penis can be traced to direct inoculation. The victims are usually the old devotees of masturbation, or dalliance in the sexual act.

It is generally ushered in with a hard, brawny state of the corona, which assumes the form of large scales; later scirrhous and medullary infiltration, involving the entire organ.

Most amenable to treatment with bactericides, boroglyceride paste, resorcin ointment, brushing with lactic acid.

All means failing, its removal with the chloride of chromium or ozone paste. The usual internal remedies.

CANCER OF THE RECTUM.—In the early stages the microbe puts in an appearance in the form of an epithelioma, at the verge of the anus; later on in the form of vertical streaks of scirrhus, and later still the entire rectum becomes filled with a medullary or adenoid substance. The pain anterior and posterior, diarrhea, hemorrhages, cachexia and other landmarks, which are readily seen and felt.

The most excellent results have followed the introduction daily of rectal bougies, composed of papoid and boroglyceride; creolin and lactic acid have also been successful; aristol and the glucoside of stone crop.

The powdered jequirity by insufflation is often of utility in causing an exfoliation of the mass of diseased germs—iodol and other remedies used in the same manner.

The rectum, before any powder is applied, should be well

washed out; the dry or powdered treatment is most successful in a large number of cases.

CANCER OF STOMACH.—This is recognized by cachexia; the pain anterior and posterior; aausea, vomiting; in vomit cancer germs.

No case of cancer of the stomach should be given up until the local application of the ozonized clay and conium pill has been thoroughly tested and a fair trial of papoid of trypsin. The very remarkable solvent powers of these two remedies upon diphtheric effusions, upon all recently organized tumors or excrescences, merit the attention of the profession and mark a new era in therapeutics.

With the ozonized clay externally, giving out its germicidal properties by endosmosis, and either of those remedies internally, cancer of the stomach becomes amenable to treatment.

A liquid, highly animalized diet should be given.

CANCER OF THE TONGUE.—Most generally appears among men who are inveterate smokers. All forms are met with—epithelioma, scirrhous, medullary.

Each form requires the application of special remedies adapted to the special microbial condition present.

When the tongue is patchy, exfoliates large or small scales, brushing it over with either dilute lactic acid or an ozonized distillation of jequirity, or steeping it in a saturated solution of chlorate of carbon for twenty minutes thrice daily, or a solution of hydrastinin; peroxide of hydrogen has also proved itself of utility.

When the case has proceeded onwards to ulceration, either of its centre or edges, the c. p. lactic acid formalin may be tried; that failing, and the cancerous mass accessible, the ozone paste might be applied with great care.

In the more aggravated types a portion or the entire tongue may be removed. When this is deemed advisable, to be attended with success, it must be done early.

CANCER OF THE UTERUS.—Common at all periods of uterine activity, but especially so at the cessation of the menses. It is met with in a variety of forms, as adenoma, springing from some part of the internal walls, often filling the entire cavity of the uterus and passing off in glandular pieces, often accompanied with violent hemorrhage and anemic conditions —epithelioma, scirrhous infiltration, or medullary exudation at os and neck, penetrating upwards to the body of the uterus.

It is easily recognized by the pain anterior and posterior;

mucopurulent discharge loaded with cancer cells; the peculiar odor of the discharge; often sanguineous—at other times exhausting hemorrhages. Ocular and digital examination of the os, neck and body, as far as practicable, reveals the true state of the parts.

Nearly all cases admit of great palliation, if not of cure.

The Chian turpentine mixture and the glycerite of sulphur are most admirable and effective remedies in all forms of uterine cancer.

Cases in which the cancer bacilli imbedded in a glandular mass sprout from and occupy the cavity of the uterus are much, very much, ameliorated by the introduction of gelatined bougies, prepared from either resorcin, or iodol, or creolin, introduced into the cavity of the uterus and permitted to remain—same remedies could be introduced into the cavity of the uterus with a siphon syringe—introduced and withdrawn.

If the microbe has invaded the os and neck, pastils of boroglyceride and cocain might be tried; where it is deemed advisable to cause exfoliation, the jequirity paste, or, better still, the powder by insufflation, is better if there be an erosion of the os and cervix.

The dry treatment of cancerous infiltration is good. The vagina should in all cases be washed out to remove the secretion thoroughly, previous to the application of the powder, and the dry powder laid right on the affected part; repeated applications about every five days will gradually cause exfoliation of the germ mass.

If the germs have infiltrated the os, neck and body of the uterus, the application of the jequirity may not be sufficient to cause it to exfoliate, then about every five or seven days c. p. lactic acid may be brushed over it, and every night the vagina packed with boroglycerite paste, or if the germs are still deeper seated, some more penetrating application should be utilized, as the chloride of chromium or ozone paste liquefied to the consistence of cream and applied. Great care must be exercised not to touch the sound parts; peroxide of hydrogen as a local application is often invaluable. Papoid, if the case admits of its use.

Hemorrhage in all cases most effectually controlled by the administration of ergot.

With a liberal use of the Chian turpentine mixture and glycerite of sulphur, vaginal injections of resorcin, no physician need fear to do wonders in the way of cure.

CANCER OF THE BLADDER.—The great majority of all morbid growths of the bladder are simple in their initial stage, but gradually become malignant under conditions of irritation; carcinoma of the bladder is usually deposited in the base of the organ, and has a tendency to remain quiescent or latent for many years. This is said to be due to the absence of lymphatic in its walls. Pain and hematuria are its leading symptoms—although augmentation of the normal quantity of urine is considerable—profound anemia increasing with the progress of the malady. Shreds or detached pieces of the neoplasm are found in the urine. In such cases the walls of the bladder are dotted over with papillomata. The pain is excruciating, precedes the hematuria, sharp, lancinating, radiating to the thighs, from the symphysis pubes; local tenderness, patches of induration. *Papillomata* are the most frequent of all bladder growths—proliferations of the natural structure of the vesicle mucosa, forming papillæ or protrusions covered over with cylindrical epithelium—commence from a base, form a stalk.

CARIES ET NECROSIS.—Caries, a molecular disintegration of the spongy or soft bones; necrosis, an analogous condition attacking the hard bones—conditions corresponding to ulceration and mortification.

There might exist a predisposing cause in tubercle, syphilis, cancer; the exciting cause is mechanical violence, an injury of some kind. Inflammation, with dull, aching pain, follows; an abscess forms, which may burrow into the neighboring parts, and, if not arrested, finally bursts, discharging a thin, watery pus containing the *débris* of bone, which feels gritty.

In the treatment, free incisions and a liberal use of glucozone, ozonized echinacea and other intiseptics.

Good air, the best of nursing and diet are indispensable requisites.

Another method is to dress the ulcer with hydrochloric acid of a strength sufficiently great to dissolve the lime salts contained in the exposed bone at its base, *i. e.*, ten per cent. This is applied on a double fold of lint, cut to the shape of the necrosed area, and covered with a layer of gutta-percha tissue; over this is placed lint smeared with boracic ointment, a pad of absorbent wool, and a bandage. This is left on for twenty-four hours, then removed, and the ulcer washed with boracic acid, and pepsin in the powdered form dusted lightly over the sur-

face. The lint, impregnated with a 0.2 per cent solution of hydrochloric acid, is applied as before. The dressing is removed next day, and replaced by the strong acid dressing, and so on alternately. By this means the bone is slowly dissolved, the necrosed parts are cast off, and a healthy granulating surface is left. The boracic acid dressing is used, cicatrization proceeds, and the ulcer becomes covered with epithelium.

CARUNCLE.—A fleshy excrescence often met with on or adjacent to the female urethra.

It is quite amenable to the ozonized oil of thuja. Cotton saturated with the same and applied, it speedily disappears.

CARYOPHYLLUS.—A variety of plants of the natural order, *myrtaceae*. The most important is the clove-tree Cloves are the immature flower buds of this plant. They possess valuable aromatic, carminative, and stimulant properties. *Oil of cloves* is a volatile oil obtained from the clove. It sinks in water, and has a burning, acrid taste. This oil is used frequently to stop the pain of toothache, but acts better in combination with cocain.

Pulverized cloves is often an effective remedy in malaria, combined with cinchona and capsicum.

CASCARA SAGRADA.—The bark of a small tree indigenous to the Pacific Coast.

Chemistry.—Contains red and light yellow resins, tannic, oxalic and malic acids, some starch and a crystallizable alkaloid.

Physiological Action.—Stimulates the pneumogastric and vagus, and motor cells and ganglia of the sympathetic which supplies the intestinal tract, aids the general process of digestion.

Therapeutical Action.—Useful in habitual constipation of the alimentary canal, in hepatic torpor and deficiency of intestinal secretion, in an abrogation of the peristaltic wave.

Preparations and Doses.—A decoction is used, half an ounce of the ground bark to one pint of water; fluid extract from ten to thirty drops; a lozenge in which the bitter principle is eliminated; excellent form; two after each meal.

Is very generally recognized as a remedy for habitual constipation, dependent on a torpid liver and intestinal tract.

In this lozenge the bitter principle is perfectly eliminated, but in no way does it impair its therapeutical properties, but rather intensifies its action, while overcoming habitual constipation exerts a permanent tonic or vitalizing action upon the intestines. Every physician bears testimony to the fact that these lozenges are superior to any other preparation of the plant.

Another most reliable remedy for chronic constipation is ozonized extract of kola nut, either in a paste or lozenge.

CASTRATION ET SPAYING.—The testes make the man, the ovaries the woman. Castration is an operation for the removal of the testicles, which may be *incomplete* by the removal of one only, or *complete* by the removal of both. If the latter the individual is rendered incapable of reproduction, and the brain, deprived of its vitalizing elements of nutrition, suffers, while *ramollisment,* that is its substance, both gray and white, softens, its typical fissures of thought become obliterated, the mental calibre evaporates, all the attributes of effeminacy and degeneration seize the victim; latterly insanity, or complete migration of the soul.

The leading lights of modern scientific medicine urge the imperative necessity of this operation as a cure for epilepsy due to masturbation and spermatorrhea; as a cure for enlarged prostate, with difficulty of micturition. In all cases insanity is the sequel.

SPAYING, castration, removal of one or both ovaries, deprives a woman's brain of all her divine attributes, her finer sensibility. When both are removed she becomes uncouth, her features, coarse, a vacancy instead of brilliancy in her eye; her voice masculine, repulsive, loathing, unattractive; a demon, instead of a mother of herself. Very eminent members of our noble profession urge the removal of the ovaries for certain uterine diseases, such as cancer tumors, neuralgia, intermenstrual dysmneorrhea, neurotic affections. In this city we have professors with private hospitals, drawing an annual income of over one hundred thousand dollars from spaying women with no uterine disease whatever—performed simply to escape the responsibilities of motherhood.

CATARACT.—Consists of an opacity of the crystalline lens, or its capsule, or both; the effect being to intercept the rays of light on their way to the retina. Three forms are usu-

ally recognized according to situation of opacity, viz., lenticular, capsular, and capsulo-lenticular.

Causes.—The causes that give rise to opacity of the crystalline lens are either inflammation or degeneration of structure.

Symptoms.—Hard or lenticular cataract, or degeneration is the most common form met with in both sexes between fifty and seventy years of age. It causes objects to be seen as if through a thick cloud or gauze; allows vision to be more clear when pupil is dilated with atropine, or by turning back to light. In advanced cases vision is reduced to distinguishing light from darkness. Commonly, one eye becomes affected first, then the other. Movement of iris natural; when pupil is dilated with atropia cataract can be distinctly seen with a glass of small focus; when cataract forms, lenticular opacities can be readily seen by ophthalmoscope.

Soft, or lenticular cataract of young people, may occur at any time of life. Congenital cataract is of this kind, due to disintegration of the whole substance of lens, which becomes opaque and swollen. Symptoms are the same as the hard, only vision more imperfect. This form often depends, or is caused, by a defect in the co-ordinating chemical centre in the brain; hence it is common in diabetes and other diseases connected with that part of the brain.

Capsular cataract is more especially the result of chronic inflammation and effusion of lymph into its covering; opacity of a dead white capsule; it may react any portion of capsule. Opacity of capsule always leads to opacity of lens, so that capsulo-lenticular cataract is very common.

CATALEPSY.—This very rare disease is found almost exclusively among women, though occasional examples are met with in the other sex. It is marked by the recurrence of fits, which may be repeated several times in the same day. The features of the fit or convulsion are the following: The patient may experience headache, lassitude, dizziness, or trembling, and be suddenly stricken motionless, so that, if he be engaged in walking or using either the upper or lower extremities in any way, they become fixed, and remain in whatever position they may be in, no matter how constrained. It is possible, however, for another person to bend the limb in a new position, in which it stays until the muscles become fatigued. The limbs feel semi-rigid, and as if made of wax or some half-resisting material, so peculiar is the contraction. The patient is utterly

unconscious during the seizure, and remains so during its continuance, which lasts, perhaps, for an hour or two, or even for several days, but this is rare. The skin is numb and insensitive, so that pins may be thrust in to some distance without producing pain.

Cases of trance usually come under this head, and religious history is full of examples of what was simply ecstasy or catalepsy.

Fright, malarial poisoning, anemia, or other impoverished states of the blood, enter into the production of catalepsy, and it is commonly a disease of early life. The prospect of cure is discouraging unless it be of malarial or emotional origin, and not connected with hereditary nervous disease or insanity. Cold water douches may be used during the attack, and the patient must be kept perfectly quiet.

CATARRH.—A superficial inflammation of the follicles of a mucous membrane, with an excessive discharge of mucus, in which the primary elements of nutrition are changed, degraded into other living matter, with a new and independent existence.

Generally met with in an acute and chronic form.

NASAL CATARRH, in the acute form, generally owes its existence to cold, damp, exposure, congestive chill; also due to the inhalation of dust, gases; idiosyncrasy to certain drugs, as iodine, ipecac.

NASAL CATARRH, CHRONIC.—Physiologically and pathologically the nose is an organ of much importance. Its position and functions expose it to injury, to variable temperatures, chemical and mechanical irritants, which excite inflammatory states.

In all cases of chronic nasal catarrh there is a thickening of its internal lining membrane, which to a certain extent gives rise to some obstruction, not an occlusion, but simply a thickening or contraction.

Removal of the cause is the first step to a cure. Local medication is of much value in all cases of this form of catarrh. Ozone et chlorine, when used in any strength from one to two drams to the pint of tepid water by a douche, is far reaching in its effects, ridding the nostrils of all morbid tissue and exciting a healthy action, at the same time destroying germinal matter.

At the commencement of the treatment of all cases of nasal

catarrh, one application of the nasal douche charged with ozone et chlorine will do an immense amount of good, destroys all germs, removes thickening, establishes a healthy base upon which the renewal of tissue can be built.

Subsequently a cure can be established by the use of antiseptic solutions, of which resorcin and siegesbeckie is the best; internally saxifraga comp.

Some cases are complicated by ulcers on the nasal septum, which are often the source of its chronicity, and epistaxis. If such exist apply permanganate of potassa in solid form, thus: A probe wrapped in cotton, slightly moist, is dipped in finely powdered permanganate of potassa, and applied to the affected surface, the surplus being washed away. Varicosities of the septum often yield to this procedure.

Dry catarrh is an atrophic state of the nasal mucous membrane, in which the amœba sporulates, and forms a very tenacious secretion, which dries upon the surface. In addition to the douche or spray of the ozone et chlorine, much good is obtained by improving nutrition, not only of the mucous membrane, but the general health. Sponge baths, massage, warm clothing, most nutritious diet.

A disinfectant spray of ozonized boroglyceride should be used every evening, and occasionally a spray of the following: Aqua distilled, four ounces; oil of eucalyptus, thirty drops; menthol, ten grains; tincture iodine and formalin, of each five drops; mix. Use in atomizer.

All catarrhs are contagious and infectious. No doubt of their being influenced by certain atmospheric and meteorological conditions. The chief cause of all catarrhs is a deficient vitality, extreme excitability or neuroses of mucous membranes from some cause.

The function of all mucous membranes are essentially identical, but in the process of their partial death, or rather in their germinal evolution they differ much. In chronic nasal catarrh there is an evolution of the "amœba" on the Schneiderian membrane; in the bronchial, the "conferva;" in the urethra the "gonococcus;" in the bladder, the "mitrococcus ureæ;" in the uterus, a special germ; in the stomach, the "sarcinæ;" on the membranes of the brain a "diplococcus."

In the treatment of all forms of catarrh, they all require improved nutrition and bracing tonics, and local vitalizing germicides.

For a bracing tonic no drug can excel the concentrated tinc-

ture kurchicin. It is extremely valuable, administered thrice daily in sufficient doses. It is a drug that affords immediate results which are invariably beneficial. It is a remedy given in the initial stage that will break it up. In the advanced stage curative.

Inhalation of liquid ozone may cure a recent case, but for all chronic cases of nasal catarrh, either a douche or spray of ozone et chlorine is indispensable.

In some instances iodol snuff helps; gargles of chlorate of carbon prove serviceable; one teaspoonful of a saturated solution of this in a tumbler of tepid water. If there be cough, much laryngeal-irritation, the pine-tree tablets afford speedy relief.

The term catarrh is applied to all weak, relaxed, devitalized conditions of a mucous membrane. In whatever location this exists it is characterized by the evolution of a special pathogenic microbe; in nasal catarrh the amœba; in gastric and intestinal catarrh the sarcinæ ventriculi; if relaxation pervades the mucous coat of the bladder the micrococcus uræ; and so with the uterus, vagina, rectum. From the fact of its bacterial origin, all catarrhs are infectious and contagious.

Each form may have an acute stage, ushered in with rigors, febrile reaction, suggestive of the presence of an organism or its toxin in the blood.

Nasal catarrh is predisposed to by our very variable climate, sudden heats and colds, sudden gusts of a highly oxygenized atmosphere, etc. It is, therefore, the most prevailing malady of our country.

The nasal discharge may be either profuse or scanty. If the frontal sinus be invaded it may trickle down the fauces, giving rise to laryngeal and lung trouble. In cases, nasal, head sinuses, laryngeal, bronchial or aural, the toxins enter the blood, give rise to languor, debility, prostration, general misery, whereas their elimination by the ozone et chlorine or other germicides is attended by cheeriness and restoration to health.

One thorough douching with ozone et chlorine in all cases will bring away the entire colony of germs, and if constitutional treatment is pushed with vigor so as to prevent a further evolution of germs in the respiratory tract, a good cure is the result.

But where the germ and its toxins have involved the larynx and there is *aphonia,* or the Eustachian tube and there is deafness, or the bronchi and there is difficulty of breathing with ir-

ritative cough, other remedies besides the douche of ozone et chlorine must be resorted to.

In our present germicidal treatment of catarrh, no remedy stands by a physician so well as a good alterative, which we have in saxifraga. The remedy was only introduced a few years ago, but is now very generally used in a diversified number of diseases, with uniform success, that it is now a standard. It is not only a potent germicide, but acts energetically upon the nerves of nutrition, and can be relied upon in all germ diseases, as tuberculosis, cancer and syphilis.

After it enters the blood and annihilates germs its renovating action upon the lymphatic granular system has a most salutary effect when new blood is needed for repair. All physicians who prescribe it advise its exhibition in about half a teaspoonful doses thrice daily.

Inhalations are of great utility in the laryngeal, bronchial and aural forms. Probably c. p. guaiacol is the most efficient.

I have been much pleased with the action of the ozonized distillate of witch hazel. It certainly is a most invaluable remedy for either douche or gargling.

Since the introduction of the pine-tree tablets, I have invariably prescribed them in all my cases of nasal catarrh. I have the patient merely keeps one in the mouth, swallows it as it dissolves. By adopting this method the volatile ozoniferous principle of the pine diffuses itself in every direction, even to the sinuses of the head, larynx, bronchi, ear, and as it does this, symptom by symptom vanishes—the headache and trickling down the fauces, the hoarseness and loss of voice, the cough and difficulty of breathink, even the hearing improves. Here then is a harmless method of amelioration, at least.

Inherent weakness of organization, together with some depressing agent, as exposure to variations of temperature, cold and wet, give rise to the evolution in the mucous membrane, which lines the nasal cavity, the pathogenic microbe, the amœba, which when fully fledged renders common nasal catarrh contagious; every individual, if in feeble health, in close proximity is liable to become its victim. With the evolution of the germ the mucous membrane swells, becomes inflamed, which gives rise to a feeling of stuffiness in the nose; if microbic growth be great in the frontal sinus the eyes will be affected; if in the vicinity of the Eustachian tubes they will be closed and deafness results; if in the throat and air passages there will be hoarseness, probably aphonia.

After a few days the mucous discharge becomes thicker, more opaque and profuse. This may continue for some time, during which time the patient is extremely liable to fresh attacks.

EPIDEMIC CATARRH, or influenza, being due to certain electrical and meteorological atmospheric conditions, with an atmospheric germ, is usually ushered in with great depression of vital force, rigors, sneezing, water discharge, eyes suffused, cough, gone feeling, congestion of lungs, aphonia, difficulty of breathing, loss of flesh and strength, hectic.

The toxins of the amœba give rise to a cachexia, debility, pasty complexion, headache, many cases of epilepsy seizure, neuralgia.

The toxins of epidemic catarrh are alarmingly prostrating to the nervous system, and it frequently leaves that portion of our bodies in a state of chaos. *What have we got to annihilate these two foes to human existence?*

If it be true that the toxins of these two germs give rise to all the trouble, and that the skin is an important emunctory, a rational basis of treatment is the use of the alcoholic vapor bath. Sweating assists in the elimination of the toxins, leaving less poison behind in the body. Normal sweat is toxical if reabsorbed, but the sweat of catarrh, of epidemic influenza, phthisis pulmonalis, pneumonia, diphtheria, typhoid fever, tetanus, is deadly if injected under the skin of any domestic animal. The sweat is the main vehicle for skin excretion, and if aided by other remedies will break up catarrh.

The body, both in its normal and pathological state, is a receptacle, as well as a laboratory, for the generation of poisons. Ozone, the great scavenger of nature, is the remedy locally and internally.

As a rule, the best remedy in epidemic influenza or catarrh is the ozonized concentrated tincture of passiflora incarnata, administered in moderate doses, but frequently, until the patient is thoroughly under its influence, with confinement to bed. For a tonic in all cases, matricaria.

The chronic form of catarrh, which is so common in our Western States, is best treated by washing out the nasal organ, fauces, with a weak solution of ozone et chlorine, once or twice a week. Here the best internal remedy is comp. saxifraga, which should be administered for several months.

The leading medical authority in America says: Individuals suffering from neurasthenia, exposed to the vicissitudes of

rapid changes of temperature, sudden heats and colds, intense atmospheric changes, greater in North America than any other nation in the world, very naturally have frequent attacks of acute catarrh, liable at any time to either terminate in chronic catarrh, in ozena, chronic laryngitis, or bronchitis.

In the passing from the acute to the chronic form, the evolution of the amœba is most prodigious, much greater than in the acute or well-established chronic.

The amœba, when once thoroughly established in the air passages, sporulates freely, and migrates into every nook and corner; especially are they prone to penetrate the Eustachian tube, and give rise to ear trouble, deafness, aphonia.

All stages of nasal catarrh are contagious and infectious. Its toxin, whether the germ be in the nose, ear, throat or bronchi, enters the blood, impairs the function of cell nutrition, damages the nervous system, induces such pathological conditions as chorea, vertigo and epilepsy, besides giving rise to a pasty or doughy appearance of the skin, debility, goneness, a special cachexia.

The grand fields of germicidal growth, toxin excreta, ulceration, with a complete metamorphosis of normal tissue, are in the nose, Eustachian tube, fauces, larynx, bronchi—a pathological condition which bears great care, good food, alteratives and tonics; but we are very doubtful if the entire list of such remedies ever cure a single case. Nevertheless, such a course fortifies the vital forces to resist the ingress and prevent the evolution of this germ, which is something.

Ozone et chlorine is the specific germicide for the amœba. If it can be applied it will annihilate the germ, and, as an active scavenger, antidote its ptomain, wipe it from the tissues. It also rouses up in the patient the vital elements of a new existence. The remedy has a natural affinity for the germ, which is common in all cavities and hollow organs when vitally depressed.

The treatment for a radical cure must be direct, to the nose, Eustachian tube and larynx, by the nasal douche; to the bronchial tubes by atomized vapor.

The treatment in all cases must be administered by a physician, a believer in bacteriology, the remedy he uses in from thirty drops up to two drams to the pint of tepid water, variable in strength according to his judgment. In all cases, before applying, the fauces should be painted with the remedy in about half its strength.

Taking all into account, a progressive course is the best, beginning with thirty drops to the pint and increasing up to two drams.

Still, if desirable, a positive cure in one treatment can be effected; that is, a cure that will drive every amœba from the air passages. But for general practice a slower method affords more permanent results.

Another form of chronic catarrh commences with distinct evidence of disease of the nose or naso-pharynx, and in children and young persons it is very often due to and kept up by the presenece of post-natal adenoid growths. The occurrence of tinnitus is not constant, nor is it so marked a feature at the onset of the disease; there is usually distinct evidence of Eustachian narrowing, with generally considerable improvement on inflation. This is chronic moist catarrh of the middle ear. In most instances it has originated in a recognizable acute attack of naso-pharyngeal and Eustachian catarrh, and it is most amenable to the ozone et chlorine in the same strength as for nasal catarrh.

The ozone et chlorine, either by spray (atomizer) or by douche, is the most effective remedy ever discovered for eradicating this germ from the body. The destruction of the germ must be followed up by the exhibition of comp. matricaria before meals, with thyroid extract and c. p. solution of spermin.

If nasal catarrh be not either cured by drug or effaced by a restoration of vital force, it is bound to terminate in ozena.

We read a great deal, see a great deal, and hear a great deal about nasal catarrh, one of the prevailing infectious and contagious maladies of the present age.

In the treatment of nasal catarrh, internal or constitutional remedies do not do much good; that is, you cannot depend on them for a cure. They benefit simply by improving the general health. Alteratives and tonics help, but their action in all cases must be aided by a local treatment, either in the form of atomized fluids or solutions in a douche.

As a rule there is little use in supplying the patient with either, for he is unable to use them with precision; never can get more than a temporary benefit. He is unable, either with the spray or douche, to get the remedy far enough back; he simply gets it over the anterior ends of the turbinated bones, very seldom reaching the seat of the disease where the microbes are at work. This should be performed by a physician of skill, and as the entire Schneiderian member is either thickly cov-

ered with a germ-laden mucus, or incrustation, a medicament of sufficient potency should be used to penetrate the mucus or incrustations. Such a remedy we have in the ozone et chlorine used in either of two methods.

For this purpose the remdy at first should be applied weak, but thorough, cleansing the diseased tissues; there must be no irritation. After cleansing one nostril and then the other, wait a few minutes, then blow out and re-apply. Much good can be accomplished.

The strength of the solution, as strong as possible so it does not irritate, tepid, and in quantity about a pint.

If the patient is to use it himself, he should be instructed to hold the nosepiece so that the current will pass directly back through the nose, thus covering the turbinates through their full length, and reach the posterior nares, and by holding the breath well, will pass down the other nostril.

As the case progresses, for ozone et chlorine is never failing in its action, other agents, such as resorcin, permanganate potass may be used in weak solutions.

Don't wase time, neither get swindled by the use of nasal bougies nor other clap-trap pushed forward by unscrupulous drug houses. Give the patient an honest deal.

Gastric Catarrh.—The causes which give rise to it are either gross carelessness on the part of the afflicted individual in hasty eating, drinking excessively of fluids, adulterated food, improper medication.

Indiscretion in eating, excessive drinking, account for a very large percentage of cases.

It is by far the most common form of dyspepsia or indigestion; the mucous membrane of the stomach is damaged, devitalized; there is always, in all cases, an excessive secretion of mucus, in which an evolution of the sarcinæ ventriculi takes place; here it sporulates and grows, with more or less activity, according to the intensity of the depression and the amount of mucus excreted. In this state of bacterial life and growth, toxins are freely elaborated, which are absorbed into the blood, which give rise to cerebral depression, headache, weakness, vertigo, impairment of the senses, general deterioration from imperfect digestion, want of nutrition, anemia. Although not essentially a water-bourne malady, the use of fluids aggravates its intensity, and promotes an extraordinary volume of microbic growth.

A most essential point in the treatment of any case is to limit

the use of fluids, especially before and during meals. The diet should be most nutritious, solid, and be thoroughly masticated.

The use of ordinary doses of comp. tincture matricaria before meals has a most happy effect in toning up the walls of a relaxed stomach; one of the best and most efficacious of all remedies, its use never should be omitted.

Immediately after eating, either ozone water or peroxide of hydrogen should be administered, to inhibit germ growth, and annihilate old spores or pockets.

The sarcinæ in gastric catarrh make germ lesions in the stomach walls, favorite sites for cancer deposit. There should, therefore, be a thorough eradication of the germ, a strengthening and bracing up of tissues, to efface all weak spots which are favorable to the lodgment of the cancer neoplasm. To effect this the patient should be encouraged to drink at all times, and under all circumstances, an infusion of kaki, which has such a remarkable tonic action on the stomach walls.

Ichthyol is a favorite remedy by many in gastric catarrh. It is usually administered as follows: Make a mass by rubbing up ichthyol in gum tragacanth to the consistency of putty, then inserting in five grain capsules is about the best mode of administration.

It not only kills the sarcinæ, neutralizes toxins, but has a happy effect in increasing digestive activity; bowels are regulated, a freshness and elasticity is imparted to the whole body. One or two capsules, thrice daily, is the dose that effaces the sarcinæ ventriculi, and cures cases of gastro-intestinal catarrh of twenty and thirty years' standing.

The sulphocarbolate of zinc and soda are not of much utility in gastric catarrh, although exceedingly valuable in fermentative diarrhea.

The relaxation of the mucous coat of the stomach, and an excessive secretion of mucus, in which an evolution of the sarcinæ ventriculi takes place. It is in this mucus this microorganism grows and is nourished, and in it it sometimes acquires prodigious proportions, and even endangers life.

The causes which give rise to this very prevalent form of stomach trouble are extremely numerous, and likely in the near future to be more common as food contamination becomes more persistent. Drinking excessively of liquids, especially beer, most productive of it; imperfect or hasty mastication, nasal catarrh.

The use of alkalies and other drugs, etc.

The destruction of the sarcinæ ventriculi in the stomach, and the prevention of repeated crops have, since the Thompsonian era, been a stumbling block in the medical arena.

Samuel Thompson administered emetics of lobelia, and followed it up by copious draughts of a decoction of bayberry, and cured all his cases, but both people and the profession have become fastidious and dropped the emetic and bayberry tea, and for a century the people have been the sufferers, and the victims of unscrupulous charlatans.

The trouble has been to completely annihilate the sarcinæ without in any way injuring the coats of the stomach.

According to the extensive clinical experience of every bacteriologist in these States, some twenty thousand men of great ability and truth, men who abhor ignorance and the miserable twaddle of specifics, the perfect destruction of this micro-organism in the stomach, and the production of a vitalizing action on the different coats of the stomach can be effected in every case by administering the ozonized jelly of ichthyol in doses of from fourteen to thirty grains one hour before meals in any suitable vehicle.

The remedy should be given, although simple and harmless, under the guidance of an honest physician.

Meals should be solid, well masticated, and with them an avoidance of all liquids. After commencing with the remedy, do not expect big results the first twenty-four hours. Sooner or later, however, the expected improvement begins; the nausea and vomiting cease, the constipation or diarrhea is improved; the flatulence is no longer troublesome; the headache becomes less frequent; and, of more real value than these, the improvement in the general condition of the patient becomes evident. The color, the weight, the appetite, the sleep, the spirits of the patient, all show a change for the better. Of all the symptoms, the pain is the one which is apt to persist the longest, and that also disappears.

The toxin of the sarcinæ is one of the chief causes of the present neurasthenia and so-called nervousness; besides in all cases digestion is imperfect; the fermentation induced by this germ evolves toxins from decaying food, which enter the circulation, giving rise to strange nervous sensation, disturbance of thought, irritability.

CATARRH OF THE STOMACH IN CHILDREN.—Until within these few years back the sarcinæ ventriculi was not met with in childhood, now it is one of the commonest derangements of

that period of life among rich and poor. It is a constant danger to hand-fed babies, and forms one of our chief obstacles to the raising of infants. In older children it is of frequent occurrence. It seriously affects their nutrition, and interferes with development and growth. Mothers term it biliousness. The little one loses its appetite, mopes, lies about, has a dull, pasty or yellow complexion, and looks dark under the eyes. At night it sleeps badly, and is restless and irritable during the day. If the tongue is protruded there is a fur on it, with a coat in the centre; the breath is sour-smelling; there is a fullness about the stomach; all indicating catarrh of the stomach, which, with its fungus, interferes with the digestion of the food. It may be vomited or pass by the bowels, but it leaves the stomach weak, and another is likely to follow, and nutrition is seriously impaired. In addition to the above symptoms, affected children complain of pains in abdomen and sides, and are likely to suffer from vertigo, syncope from pressure upward of the distended stomach and against the diaphragm and heart. Bowels usually are constipated.

Catarrhal conditions of the intestines, in which a dwarfed species of the sarcoinæ is developed, yields readily to the persistent administration of ozonized extract of Collinsonia and Virginia stone crop.

This dwarfed species of the sarcinæ is to be found in all cases of chronic diarrhea and catarrh of the bowels in groups of four and eight.

CATARRH OF THE NECK OF UTERUS.—Is the most common of all diseases that afflict modern women. Catarrh of the neck of the uterus, called by the physicians *ulceration,* so as to make it appear a formidable affair, and frighten their patients. It is true the disease is chronic, but erroneous statements regarding it are unnecessary.

In this affection the mucous membrane is swollen, red, and bleeds easily, and exudes a mucopurulent fluid or pus. This can be readily seen. The mucous membrane has a punctate, granular appearance; its papillæ are often denuded, and only affects the neck, which is distinct from the body of the uterus, and constitutes a large, open gland, which is liable to catarrh. The disease is of the greatest importance, on account of its frequency, being the most common.

Catarrh of the neck is caused by sexual excesses, wearing sponges, rubber tents, childless marriage, abortion, tedious full-time delivery, cold, rheumatism, gout, gonorrhea, suppres-

sion of the menses, sedentary occupations, masturbation and other forms of irritation.

Symptoms.—The ordinary symptoms are pain in the back, about the base of the sacrum, which is the common seat of cervical pain; pain down the thighs; a feeling of weight about the rectum or lower part of the belly, and a variety of reflex symptoms, as headache, languor, and a train of indescribable sensations. What chiefly attracts the patient's attention is the extraordinary discharge, leukorrhea or whites being profuse, or otherwise of a thick, yellow, viscid color, imparting a dirty grayish-yellow stain, varying from the healthy crystalline mucus to yellowness or greenness, or thick, ropy, yellow pus.

A white, milky discharge cannot be called morbid; it is the vaginal mucus in excess, and occurs in weakly women, after a long walk. A glairy, albuminous crystalline discharge can scarcely be called morbid, as it comes from the neck, when the patient suffers from extreme debility; but a yellowish, greenish discharge indicates disease. Here one speculum examination is necessary, and it should be made by the duck-bill speculum, in the presenece of some lady friend or the husband. The mirror-glass speculum shows the disease most beautifully, if there is any, and the attendant can see it. No other speculum examination is necessary. The patient can now, in nearly all cases, manage her treatment successfully; remove the cause, if possible. She should be placed upon alteratives, as saxifraga and uterine tonics, wine of aletris farinosa alternated with comp. syrup of partridge berry. The vagina should be injected by means of a half gallon fountain syringe filled with a tepid solution of boroglyceride thrice daily. After each injection patient should lie down for one hour at least on her back, and insert one nymphæ odorata pastil well up against the neck, and on retiring to bed an ozonized pastil should be inserted. The bowels in all cases must be kept regular by either one kolatina tablet at bedtime or fruit, such as prunes, during the day.

Nutrition should be attended to. If appetite is poor, comp. matricaria.

INTRA-UTERINE CATARRH.—One of the most common maladies of the modern female, induced by such causes as gonorrhea, sexual excesses, sexual incompatibility, metritis, miscarriages, retention of the products of conception, the introduction of the uterine sound, metastasis of disease germs, and the like, which give rise to a partial death of the intra-uterine mucous membrane, leaving it weak, relaxed, pouring out its mucous

secretion, in which an evolution of the amœba, yeast plant and sarcinæ takes place. The bacterial products of the growth of these germs—toxins—give rise to a feeling of goneness; a so-called hysteria, headache, dyspepsia, bloating, with an indescribable burning in the hands and feet; a germ-laden leukorrheal discharge, most copious after getting up, which is intensely acid.

The sequelæ are sterility, dysmenorrhea, and ultimately the cancer neoplasm puts in an appearance.

At least two-thirds of American ladies are victims of intra-uterine catarrh. Most experienced physicians find this malady difficult to manage; nay, some pronounce it incurable, simply because they have failed to realize that the cavity of the uterus, with its entire mucous membrane, is but a colony of millions of microbes, factors of morbid action, the precursors of cancerous deposit.

Never inject the uterine cavity in these cases; never insert bougies prepared of any drug. Simply wash out the vagina with a tepid solution of boroglyceride, and subsequently have the patient insert a pastil of white pond lily at 9 and 12 a. m., and one at 5 p. m., and on retiring for the night one prepared from the oil of thuja. These are sufficient to annihilate the yeast plant, amœba, sarcinæ, etc.

These pastils are inserted well up against the os uteri; the patient in the recumbent position for an hour; used for three weeks out of every four for three or four consecutive months. This is indispensable, as the uterus is considerably dilated, and its walls much thickened.

At the initial period of treatment place the patient upon full doses of the wine of the aletris farinosa. This is a most efficacious remedy, as it induces contractility of the body of the uterus as well as its walls; it tones and vitalizes, being a restorative of great power.

With this treatment comes a change—a drying up of a morbid secretion, with no auto-infection; a diminution of stricture, with every infective germ wiped out, an alkaline secretion re-established, and the once barren fertile and strong.

The ozonized wine of aletris farinosa excels all remedies as a uterine invigorator.

CATARRH OF THE REPRODUCTIVE GLAND.—The ozonized extract of black willow is a medicament which has been much overlooked, nay neglected, in intra-uterine catarrh and in seminal leakages. The ozonized extract of black willow is a remedy

of unquestionable efficacy and great merit. No better remedy has ever been presented to the profession for the cure of spermatorrhea, catarrh of prostate, seminal vesicles and testes, for the weeping penis of our drained-out youth, or the devitalized reproductive glands of the libertine. It is a good remedy in itself, but its therapeutic action is enhanced by combining it in equal proportions with passiflora incarnata.

The ozonized extract of black willow works well, administered orally; better when prescribed by suppository and soluble bougie. There is only one objection to its use, and that is its astringent properties, which can be easily overcome by the kola nut lozenge.

All catarrhs in North America owe their origin to a neurosis. Speaking therapeutically, simultaneously with the excessive secretion of mucus, measures and agents which prove to be efficient in the cure of nervous disease are most valuable, such as rest, massage, nutritious food, matricaria, thyroid extract and c. p. solution of spermin.

In all catarrhs, for each one has its microbe, each infectious, a retention of each one's respective toxin, the products of incomplete oxidization giving rise to goneness, depression, general misery, are best overcome by the organic extracts, which are remarkable for their potency as oxidizing agents, and for their promptness in action.

CATARRH OF THE BLADDER.—Becoming daily more common in both sexes, but especially in the male. In early life, cold, exposure, uric acid in excess are common causes; later gonorrhea, masturbation, sexual excesses, various morbid changes in the prostate, including degeneration. In all cases the micrococci ureæ are evolved.

All the old treatment by buchu, uva ursi, Pareira brana is discontinued; even injecting the bladder with antiseptics is giving way to the administration of urotropin.

A most efficient diuretic, urinary antiseptic, uric acid solvent, and remedy for calculous disease. Rapidly renders alkaline and putrid urine containing mucus, pus, uric acid, and amorphous urates normal in appearance and reaction. It sterilizes the urine, increases its quantity, and dissolves calculi and deposits. Very valuable in all suppurative diseases of the genito-urinary tract, pyelitis, cystitis with ammoniacal decomposition of the urine, phosphaturia, also in gouty and rheumatic affections where active elimination of uric acid and the urates is required.

When prescribed in ten-grain doses, thrice daily, it promptly annihilates all disease germs in the urine, checks all decomposition, prevents the evolution of the micrococcus urea, so common in either urinary retention, or cystitis.

CAVITIES IN LUNG. (*Micrococcus Tetragenus.*)—Grave affections of the lungs frequently commence either with an ordinary cold in the head and chest, nasal catarrh, laryngitis and bronchitis—conditions which are decidedly common.

Lungs weakened from or by any condition often become the abode, the receptacle of disease germs, provided they be in the blood or air breathed. By preference they penetrate the substance of the lung, and into this they aggregate in masses and form nests, technically termed vomica or caverns.

The *tubercular* bacilli possess this faculty of aggregation in a most remarkable degree; the *actinomycosis* comes next, making great havoc, immense cavities; the *venereal bacillus* frequently gives no exceedingly large formations; the *pneumococcus* has little tendency to form isolated masses, but it migrates, forms infiltrations. Whatever be the microbe that makes up the vomica, and it has been once expectorated, on the walls of all such cavities, in the breath, in the sputum, the micrococcus tetragenus is ever found. Very generally this germ is found in groups of four (tetrade) surrounded by a hyaline capsule. Once this microbe finds an abode in the lung, it very soon follows that groups of the characteristic *tetrad* are also present in the spleen, kidneys, liver.

The micrococcus tetragenus is pathogenic of vomica or caverns in lung structure. Being hardy and vigorous it bears cultivation well in any nutrient liquid. Cultures injected into any mammalia give us the characteristic symptoms and precise pathological condition.

The evolution of this microbe on the walls of a vomica—its extremely rapid growth, toxins most deadly, the product of bacterial growth thrown off in an unlimited degree—gives rise to putrescency, fetor of breath, diarrhea, hectic, profound prostration.

It has been customary in clinical teaching to classify all vomicas as being due to tuberculosis; the time has now arrived when very many cases can be diagnosed as either syphilitic or due to actinomycosis.

CELERY COMPOUND.—This remedy is composed of celery seed, guarana, ambrosia orientalis.

Properties.—A most extraordinary remedy to neutralize the poisonous properties of bacterial life in the blood and reinvigorate the nervous system.

Indications for its Use.—In all cases of auto-infection from the presence of the toxins of disease germs in the blood and nerves; essentially a nerve restorative and vitalizer; imparts to the aged youthful vigor and vivacity; very efficacious in all fevers and inflammation, shortens their duration, mitigates their severity; allays restlessness and irritability, promotes cardiac vigor; gives colossal brain strength. Indicated in all forms of albuminuria. The great value of the remedy as a vital restorative has been thoroughly verified.

Celery comp. ozonized, then, is indicated in all conditions of debility, where the vital forces are below a normal standard, or in an asthenic condition from the presence of the toxins of disease germs. Impotency (functional and congenital), spermatorrhea, sexual debility, weakness of the bladder, testes, mammæ or ovaries, prostatorrhea—valuable as a diuretic. It neutralizes the poison; rapidly restores the vitality of all the tissues by stimulating the process of assimilation.

Dose.—From one to two teaspoonfuls before meals.

This is a true nerve tonic; indicated in restlessness, irritability, insomnia, whether of infancy or senility, and of the utmost value in the excitability of hysteria, or the depression of neurasthenia. In alternation with the uric acid solvent it effects most wonderful results in the uric acid diathesis; in albuminuria of disease germs blocking up the kidneys; and in degenerative changes incidental to chronic nephritis.

Take it all in all, the ozonized celery comp, has a wide range of action and seems upon the whole to be an effective drug in Bright's disease.

Weakness, relaxation of the secreting structure of the kidneys, with albuminuria, are much more common than is generally supposed. Bright's disease does not account for half the number of cases met with in practice, although it accounts for more than any other individual disease.

If you have a case of chronic interstitial nephritis, a condition responsible for cardio-arterial, ocular and other remote phenomena, with urea in the blood, *try the ozonized celery comp.*

If you have a case of renal sclerosis of inflammatory origin,

diminution or loss of functional power in the kidneys—whenever the protoplasm or master tissue of the kidneys fails to excrete, *try the celery comp.*

If you have a case of intense frontal headache, puffiness of the face, drowsiness, ringing in the ears, dimness of vision, dizziness, difficulty of breathing, nausea, vomiting, involuntary twitching, prostration, urine scanty and containing albumin, *try the ozonized celery comp.*

If you have a patient suffering from nervous or mental disturbances due to inability of the kidneys to secrete and excrete urea, *try the ozonized celery comp.*

If you have a fatal form of anemia with albuminuria, for which no cause can either be assigned or detected, for the change the blood is undergoing, a steady and destructive impoverishment, the structure of the spleen, lympathic glands, pink marrow of bones, not in any way altered, *just try the ozonized celery comp.*

CEREBRAL CONGESTION.—Chronic inflammation of the auditory and nasal passages is a frequent factor in the production of cerebral hyperemia, irritation of the outer and inner ear is transmitted directly to the brain; whereas in nasal irritation the olfactory spread on the mucous membrane covering the anterior and posterior ethmoidal cavities, the sphenoidal cells, the frontal sinuses directly emanates from the brain. The vascular paresis in both cases commences in the periphery, gradually travels to the brain and vascular system.

This disturbs the cerebral circulation, interferes with normal function, gives rise to symptoms of nervous prostration, gives rise to irritability of temper, headaches and inability to hold the mind continuously on a definite subject any length of time, vertigo, impaired memory, sleeplessness, extreme excitability on the least perturbation, instability, love of change, loss of ambition. Associated with those, there are usually digestive disturbances, constipation, due to an unequal blood distribution, the brain getting more than its share.

Independent of nasal, auditory, optic or rectal irritation, chronic cerebral hyperemia may be brought about by shock, fright, grief, worry, irritation in any part of the body.

Irrespective of cause, the pathological condition in all cases crystallizes itself into a paresis of the brain, paralysis of the vasomotor nerves, causing continuous congestion of the brain capillaries.

If recognized early, most amenable to treatment, if there be a nasal catarrh or any auditory derangement, they should receive proper topical treatment.

In the management of these cases, and they are numerous, the diet should be nutritious; daily baths and massage; secretions' activity stimulated and the patient placed upon large doses of passiflora, several times daily, and an active tonic, like matricaria administered. Make an energetic effort to cure before it merges itself into cerebral anemia.

If it has progressed this far such remedies as kephalin, avena sativa, protonuclein, c. p. solution of spermin, thyroid, are invaluable and essential to a cure.

If these cases are not attended to early and cured they are extremely prone to lead to sclerosis of the cerebral pulp, resulting in dementia, progressive paralysis and death.

CEREBRIN.—Dose: One to five grains at meals thrice daily. Cerebrin is a soft, light amorphous hygroscopic powder—isolated from the white substance of the brain. As it is liable to chemical change, it is best administered in the glycerite of kephalin or phosphated tincture of oats.

CEREBRO-SPINAL MENINGITIS. (*The Streptococcus.*)—Or spotted fever, may be defined to be a fever due to the presence of a streptococcus and its ptomain in the blood.

Its diagnostic points are the history of the case, epidemic and endemic, the stage of collapse, rigors, fever, with stupor, coma, opisthotonos, convulsions or spasms, delirium.

A microscopical examination of the breath, tongue scrapings, blood, demonstrates the presence of a microbe in the blood, which appears in the form of cocci; diplococci and chains—these are most abundant in the cerebro-spinal fluid, base of brain, around the medulla oblongata, spinal cord; zoogloea are found in the spleen, liver, kidneys. The alkaloid ptomain excreta is not only toxical but highly tetanizing—usually causing death in less than seven days.

The microbe is pathogenic—bears culture well in an infusion of wheaten grits or oatmeal.

The general principles for a highly contagious and infectious fever should be inculcated—bathing, antisepsis, nutrition, with the most powerful stimulants to the cerebro-spinal axis, or else chloroform and peroxide.

The microbe of this fever is difficult to sterilize or annihilate.

Our best remedies are veratrum viride, skullcap, calabar bean, gelsemium in combination, alternated with either peroxide of hydrogen, resorcin, sulphur water.

CEREBRUM.—When an anatomist removes the brain from its bony cavity it is so soft that is loses its form and flattens down on the platter which receives it into an almost shapeless mass. It bears then little resemblance in form to the beautiful pictures seen in our text-books on anatomy. But by putting it into alcohol or passing a current of alcohol through its vessels for a few days, it becomes sufficiently hardened, and then will retain its original shape much better.

As it lies in the skull in health, it is surrounded by a fluid which keeps its surface moist and soft and prevents all injury from movements in running, walking, jumping, or falling, and to allow it to swell or decrease in size, as there is more or less blood in it.

The brain is essentially composed of two kinds of tissue, and both differ from any other of the tissues of the body, and also from each other; one is gray in color and one is white. The gray matter of the brain is sometimes called the cortex. It is a thin external layer spread over all the surface of this organ, and it also dips down between the convolutions of the brain, thus greatly extending its surface and increasing the amount of gray beyond what it would be if it was simply stretched out evenly. This gray substance is said to be composed of cells, the so-called brain-cells; but the word cell is very misleading and does not give a good idea of what they are. They are, in fact, little nodules of protoplasm of various shapes and sizes bound together by delicate threads, so that each nodule or ganglion is united to all the others, permitting them to act together, and allowing of impulses arising in one part to be conveyed to another part in brain activity so far as this is needful.

The white substance consists of nerve fibres which come from or extend to the sense organs, as touch, taste, hearing, seeing, and to the various organs of the body which cannot act without the stimulus of the brain. Each so-called cell probably, or, perhaps, group of cells, connects with one of the white fibres, and thus a connection is made to the part to which it is related.

The gray matter of the brain contains a far greater number of capillaries for the blood to circulate in than the white matter. It has been estimated that it receives five times as much blood,

and we may, I think, infer from this that the activities going on in it are also very much greater. To this we may add that the whole brain is supplied with blood-vessels so as to nourish it abundantly. A glance at any well illustrated work on anatomy will show this. The brain in its embryological development arises from five bladder-like structures which are the same in all vertebrate animals, but in man the front bladder grows more rapidly and larger than in animals, covering and enclosing the whole central part, and this greater size is of the greatest importance, because this part is the organ for all the higher mental activities; because in it, as Haeckel has said, "are accomplished those functions of the nerve cells the sum of which is generally designated mind." The highest activities of the animal body, the wonderful manifestations of consciousness, the complex phenomena of thought, all have their seat in the fore-brain. It is possible to remove the fore-brain in some animals little by little without killing them, when all the higher manifestations —thought, consciousness, volition, and sensation—are destroyed one by one, finally annihilated. If the animal thus treated is artificially fed, it may be kept alive for a long time, for digestion, respiration, circulation, secretion, etc., are not destroyed by removing the fore-brain. They have their centres elsewhere. The same conclusions had, however, been reached before without vivisection.

The average weight of the brain of an adult male is about 49½ ozs., or a trifle over 3 lbs. That of the female is about 44 ozs., the average difference being from 5 to 6 ozs. The brain of the male usually ranges from 46 to 53 ozs., that of the female from 41 to 47. In the male the maximum weight out of 278 cases was 65 ozs., the minimum 34 ozs. The maximum weight of the female brain out of 191 cases was 56 ozs., and the minimum 31 ozs. Different weights, however, have been given by different investigators.

The weight of the brain increases rapidly from birth up to the seventh year, more slowly to between sixteen and twenty, and still more slowly between thirty and forty, when its greatest weight has been attained. After this its weight gradually diminishes about one ounce each ten years. The same is true in regard to both sexes.

These observations given by Gray in his Anatomy are made from averages of people in the ordinary conditions of life, and may be taken with some allowance. They indicate that man reaches his best intellectuality between thirty and forty years

of age, and from this time he gradually declines in brain vigor. The experience acquired before this period of decline, however, makes some amends for the loss of vigor after the brain begins to deteriorate.

It has, however, been observed that those who have a well integrated brain, a robust body, and good habits, retain their highest vigor long after this time, while many whose lives have been reckless decline much earlier. This fact alone ought to prove the value of hygienic knowledge so far as it relates to this organ, and, indeed, on account of the close relation of the brain to the other organs of the body, to all hygienic knowledge.

An effort has been made to show that the size of the brain bears a general relation to the intellectual capacity of the individual, but there are many difficulties in this way of demonstration. Certainly, a well integrated, healthy brain, well nourished by good blood, would show greater power than a larger one poorly integrated and nourished. So a well disciplined one may show more power than a poorly trained one of larger size. It is to the amount of gray matter in the brain probably that we are to look for superior intellectual power. And this is increased by the greater size and depth of the convolutions and furrows. On this subject Haeckel says: "In all human individuals distinguished by peculiar ability and great intellect these swellings and furrows on the surface of the hemispheres exhibit a much greater development than in the common average man, while in the latter again they are more developed than in cretins and others with an unusually feeble intellect. There are also similar gradations in the internal structure of the fore-brain of mammals." It was formerly believed that man's front-brain had some additional organs, not common to animals, but this seems not to be the case, though his are far more highly developed.

The complex nervous system found in man is the basis of his mental life. The latter cannot exist without the former; anything which injures this organ alters and lowers the mental life, may ruin it; anything that improves this organ, perfects the mental life, makes it better.

CEDRON SEEDS.—This is used in the preparation of the simabicidia, which is so valuable in neuralgias, snake-bite, rabies. Dose: A teaspoonful, repeated at short intervals.

CERII.—Liquor cerii ozonized. The cerii is presented in a form which produces the highest beneficial action which the remedy is capable of producing.

It has been much used, and with marked advantage in chronic intestinal disturbance, and in nervous dyspepsia, attended with gastrodynia, pyrosis, and chronic vomiting. In obstinate vomiting, especially that incidental to pregnancy, it seldom fails. Dose: Fifteen drops added to three tablespoonfuls of water.

CHANCRES.—An aggregation or a colony of the venereal bacillus, either in the skin and subcutaneous tissue or in the mucous membrane. They are generally met on the organs of generation of either sex, as the penis, vagina, uterus; also on the lips, arms, fingers.

Two varieties, hard or infecting, soft or non-infecting.

Recognized by the following landmarks: *the hard infecting chancre* is generally oval or round, scooped out; on grasping it between the finger and thumb, it feels as if there was a piece of cartilage in its base; if any, the discharge is scanty; the soft non-infecting chancre is round, has a copious discharge, has no hardness or cartilaginous sensation; the infecting gives rise to systemic syphilis; the non-infecting, the microbe is incapable of affecting the blood.

The old treatment of chancres is discarded since its microbial nature has been discovered.

They are now treated with lotions of lime water and tincture of iodine, or sulphur water, or with powders iodol, aristol.

CHAPS.—Cracks or fissures of the skin, usually on the lips and hands, caused by exposure to extremes of heat and cold, dry or moist. A feeble circulation predisposes to their formation. The repeated application of ozonized jelly of violets is usually sufficient to prevent and effect a speedy cure.

CHAULMOOGRA OIL.—Oil prepared from the seeds of *Gynocardia odorata,* contains an active principle, gynocardic acid. The oil is obtained by cold or hot compression.

Therapeutic Uses.—A powerful bactericide, completely annihilates the bacillus of leprosy, tubercle, syphilis, lupus, psoriasis, rheumatism.

Preparations and Doses.—The oil may be administered internally in hot milk, or in capsules in from five to ten drop-

doses; applied externally in a pure state, or incorporated in an ointment in the proportion of one ounce of the oil to three of ointment.

CAULOPHYLLUM.—The root of the blue cohosh, grows freely all over our country.

Therapeutic Action.—Emmenagogue, diuretic, diaphoretic, antispasmodic; an excellent uterine stimulant.

Preparations and Doses.—As it freely yields its properties to boiling water, an infusion is most efficient, two ounces of the ground root to a pint of water. Dose: Wineglaasful every two or three hours in suppression of the menses. A fl. ext., also good. Dose: From ten to thirty drops, added to water.

The glucoside caulophyllin. Dose: One to three grains.

CHIONANTHUS VIRGINICA.—The root bark of this plant, known as the fringe-tree or snow-flower.

Thepapeutical Uses.—The cholagogue properties of this plant have been thoroughly investigated, and are greater than any of the mercurial preparations, hence it is of great efficacy in all hepatic affections, torpidity of the liver, jaundice, enlarged liver, and dyspepsia.

Preparations and Doses.—Fluid extract. Dose: Ten to thirty drops, three time a day.

The glucoside chionshin does not seem to be active.

CHIAN TURPENTINE MISTURA. (*Highly Ozonized.*)—By the introduction into this compound of the ethereal peroxide of hydrogen, we obtain it in a form less liable to irritate the stomach, more easily absorbed, and its germicidal properties increased at least 500 per cent.

Chian turpentine, which we use, is specially collected for us in the island of Chio, from the *Pistacea terebintha.*

This, as we have prepared it, is an energetic ozone producer, an agreeable aromatic, with an odor resembling the pinaceous turpentine.

Its special action, when administered, passed into the blood-tissues, is to search out the cancer germ, which it surely finds, and slowly, silently kills it. Under its use pain ceases, the tumor, or aggregation of germs, with it also dies. If there is an open breeding, eating surface it becomes covered with a characteristic grayish slough, indicating a perfect annihilation

of the cancerous microbe. Tumors also dwindle and atrophy under its use.

Dose: One teaspoonful of the Chian turpentine mistura, three times a day, which is to be gradually increased to nine teaspoonfuls in the twenty-four hours.

CHILBLAIN.—Intense cold applied to portions of the body in which the circulation is feeble may give rise to symptoms identical to that of burns, *erythema, vesication, ulceration.*

The comp. tincture of myrrh stands unrivaled as a local remedy. Next best, a decoction of walnut leaves, to every pint add two ounces of ozonized borogylceride.

The frozen parts should be enveloped in either one during the day, and the other during the night. When either is applied cover with an impermeable dressing. After the burning and tingling have subsided the anti-microbe powder or ozone ointment can be used with comfort.

As a prophylactic those susceptible should avoid the wearing of damp stockings, or long exposure and violent changes in temperature.

CHINOSOL (*A Powerful Germicide*).—A product belonging to the chinoline series. It occurs in the form of a yellow crystalline powder, possessing a slightly aromatic odor and an astringent taste. It is readily soluble in cold water and insoluble in ether or concentrated alcohol. A solution of 1 in 40,000 is sufficient to prevent the development of the staphylococcus pyogenes aureus. As might be inferred from its chemical composition, chinosol, when brought into contact with the slightly alkaline fluids and secretions of the body, sets free oxychinoline, which, under these circumstances, exerts a powerful effect. It is to this loose condition of the oxychinolin that chinosol owes its powerful action as an antiseptic.

Chinosol ($C_9 H_6 N. KSO_4$) finds its most important application in the treatment of fresh wounds, burns, etc.; ulcers, suppurative processes, etc.; diseases of the throat, ear and nose; also in obstetrics, and in dermatological and dental practice.

Chinosol must not be brought into contact with steel and iron, because of its reaction of these metals, though the stains can be easily removed with the aid of chalk, etc. Other metals, as nickel, silver, zinc, tin, copper, are not affected by chinosol.

CHLOASMA.—Liver spots. Peroxide of hydrogen is our best remedy, and upon the whole is very satisfactory, but occasionally fails. To be effectual it should be very freely applied, and allowed to soak into the skin by means of cotton soaked in it and laid over the surface for five minutes morning and night. It will cause somewhat of a desquamation, but this can be easily remedied by the use of a little ozone ointment.

CHLORAL HYDRATE.—Dose: Fifteen grains, added to syrup of orange peel, every hour, or every three hours. Extremely efficacious in producing sleep in delirium tremens. Combined with bromide of potassa, it will control raving mania, puerperal convulsions.

Its persistent use creates a habit, and exhausts the ophthalmic tract; causes amaurosis.

Applied locally to the breasts, during lactation, it will arrest the secretion of milk; it is also an invaluable counter-irritant; more penetrating than cantharides.

CHINAPHILA UMBELLATA.—Pipsissewa, or winter-green, prince's pine.

Therapeutical Indications.—Germicide, astringent, very useful in rheumatism and dropsy. When used for a great length of time it excites absorption of testes and mammæ.

Fluid extract. Dose: Twenty to thirty drops every three hours.

CHLOROSIS.—A peculiar form of anemia occurring in young persons of both sexes, but most common in the female about the age of puberty. There is a defect in the normal evolution of the red corpuscles—the development of the corpuscles up to a certain point, but no further. The red corpuscles are small, pale, and besides being dwarfed in size are diminished in number.

The cause in some nervous defect, as some demand upon the nerve forces; in males a common result of masturbation and deleterious trades; in girls precocity due to modern education, and many of the causes that operate in the production of anemia.

Symptoms.—General symptoms of anemia, with a wax-like hue of face, yellow pallor of skin, whence the name "green sickness." Deficient or depressed appetite, fetor of breath heavy coat on tongue, skin dry, constipation, abundant limpid

urine, weak quick pulse, hysteria. If a woman, pale, scanty menstrual discharge; if a man, his semen entirely destitute of spermatozoa.

CHLORALAMID.—Dose, 15 to 45 grains, triturated in sugar of milk, either in wafers or capsules. An efficacious hypnotic, but if administered to beer-drinkers, or tobacco-users, paralyzes the heart and vasomotor centres.

CHLORIDE OF CHROMIUM (*Ozonized; the Cancer Antidote*).—Dose: For external use only. The liquid chloride of chromium is added to pulverized blood root, or any other inert powder; is made into a paste of the consistency of tar, spread on leather the size desired, and applied over the cancer, the adjacent parts being carefully protected by plaster. Spread fresh every morning, and apply until the cancer drops out, then discontinue. Indicated in all external cancers, whether they be covered with cuticle or open, ulcerating. The moment it is applied, by endosmosis, it penetrates the cancer germ, unites with it and kills it. To this germ it has a chemical affinity, as the mass of cancer germs are, when destroyed, a perfect ozonoid. The destruction of the germ is effected without pain, but the surrounding tissues are so blended in and through it that they suffer oxidation, which gives rise to some pain in the separation of the germinal mass from the healthy tissue, but much less than what is caused by any other remedy, except the ozone paste.

CHLOROFORM.—A volatile, colorless liquid, which will dissolve phosphorus, sulphur, iodine, gutta-percha.

When given in the form of vapor, it is best to combine it thus: One part of alcohol, two of chloroform, three of sulphuric ether. Mix. In this form it is our best general anesthetic, and when administered by inhalation is practically without danger, if administered by a competent physician. Chloroform, when thus combined and inhaled, stimulates, then depresses the nerve centres—the higher centres are first affected, during which operations are safe; delay or dally till it affects the lower centres, which control the heart, respiration, in the medulla and cord, dangerous. Respiratory failure usually precedes cardiac; if either is threatened, insert one or two nitroglycerin suppositories per rectum; if there be apparent failure, artificial respiration. All operative procedures

should cease. Safest and best A. B. C. for all operations attended with pain, such as parturition, spasm, tetanus, hydrophobia, and convulsion.

Proper precaution should always be observed as regards heart, lungs.

Applied to the surface of the body, depresses all the sensory nerves and relieves pain; added to an ointment or oil and rubbed in, it carries the medicament down to the bone.

Dose, 3 to 10 drops as an anodyne, antispasmodic in syrup or mucilage. Thirty drops added to one pint of any vegetable infusion, will preserve it indefinitely.

CHRYSOPHANIC ACID.—Dose, locally, once or twice daily. Of great efficacy in psoriasis. Dissolve gutta-percha in chloroform and the acid in the quantity desired, and paint over the eruption and a little beyond. The result is excellent.

CHOLERA.—We anticipate a recrudescence of the cholera germ in the near future, and it is well to keep our ideas in that direction the coming years.

1. CHOLERA INFANTUM.—Solar heat, insanitary conditions, overcrowding, deleterious food, reflex irritation and other causes favor the evolution of a dwarfed species of the comma bacillus in children under two years of age; although infinitely minute, it excretes poisonous ptomains in the body in which it is developed.

Treatment.—The first and the most important point in the treatment is to stop vomiting, for as long as this continues the patient cannot be nourished nor diarrhea arrested. I have found that one grain periodate aurum on the tongue, every half hour, the most effectual remedy, often acting like a charm. For a drink, a whey of dilute lactic acid, checks the diarrhea in a short space of time; the intervals between the doses should be gradually prolonged. If the diarrhea be very frequent, first oil the abdomen, then apply concentrated ozone, which rarely fails.

When the violence of the attack is over administer one siegesbeckie tablet, dissolved in water, every three hours. An enema of four ounces of a warm solution of boroglyceride, to which half a teaspoonful of ozonized passiflora is added. This soothes the irritable bowel; powerfully checks the diarrhea. Stop milk, give infusion of barley, and juice of raw beef. All artificial foods and other forms of starch are simply hurtful, as they pass through the alimentary canal undigested.

The dwarf form of comma bacillus keeps up fermentation in the stomach and bowels, besides bacteria and various forms of sarcinæ multiply enormously. The periodate aurum is a powerful germicide and alterative, a powerful sedative to the gastro-intestinal mucous membrane, relieving vomiting, suspending purging; always give the passiflora in the form of an enema. The efficiency of this treatment, simple as it is, gives us diminished mortality from this, our summer scourge.

All predisposing and exciting causes should be removed, and germicide remedies, which are essentially curative, pushed with all energy. A lemonade made of lactic acid should be drunk freely by the little patient—an excellent remedy, better than any other, as it aids digestion, whereas salicylate soda interferes with the peptic glands and pancreatic secretion; concentrated ozone applied over the entire abdomen, at night, together with a germicide suppository, 15-grain size of periodate.

If the case is seen even later on, it is still curable, even when the bacillus of tubercle is effused on the bowels, in the mesentery. Indeed, some of the most striking recoveries take place, where the patient appeared as if resurrected from the dead—where the patient was wasted to a shadow, with a large, painful and tumid abdomen, slowly recovers, becomes stout and ruddy under the use of the ozonized solution of spermin, with a guaiacol suppository at night, upon which the child appeared to regain health most marvelously.

It is needless to repeat that nutritious diet, cold water bathing, abuandance of fresh cool air, are useful adjuncts.

2. CHOLERA MORBUS.—Predisposed to by extreme solar heat, overcrowding, insanitary states, and debility. Induced by some irritating agent in the form of green fruit, or vegetables which give rise to the evolution of a germ of feeble vitality, and an acute catarrhal inflammation of the mucous membrane of both stomach and bowels, and is attended with nausea, retching and vomiting, with painful spasms of the muscular coat of the bowels, severe watery diarrhea, consistng of profuse transudation of fluid containing little albumin, the whole system being affected, as is seen by the prostration and fever.

If there be some offending material on the stomach, an emetic might be valuable; ipecac is the best, as it exercises a special influence on the mucous membrane of the alimentary canal—a remedy not to be despised, if continued on in one-eighth of a grain dose; appease thirst with a lemonade of lac-

tic acid, concentrated ozone over abdomen. Last summer I had quite a number of these cases, in which I had the best success with the following: Bichloride of methylene, 1 dram; peroxide of hydrogen, 1 ounce; muriatic acid, 30 drops; distilled water 4 ounces. One teaspoonful added to a glass of water every three hours.

Its action is antiseptic, stimulant, antispasmodic, and anodyne. Its antiseptic properties are remarkable—forming one of the best intestinal bactericides ever introduced. Try it; you can rely on its action every time, and for cholera morbus it is the remedy, sweeps out of existence every germ with which it comes in contact; a perfect scavenger to the bowels.

3. CHOLERA, EPIDEMIC.—Due to the presence of the comma bacillus, a pathogenic microbe which has a perennial area on the banks of the Ganges, but under certain electrical and meteorological conditions is disseminated over the surface of the earth, by human intercourse. The seizure is a premonitory diarrhea, debility, muscular tremors, vertigo, nausea, vomiting, spasmodic griping pains in the bowels, depression of the functions of respiration and circulation, with great depression.

The stools are like rice water, alkaline, and loaded with the bacillus. As the microbe grows rapidly, toxins and ptomains are liberated, vomiting becomes incessant, coldness, dampness, blueness, lividity of the lips, cold breath, unquenchable thirst, suppression of the urinary secretion and collapse.

The comma bacillus is found only in the intestinal canal—its ptomain, which is taken into the blood, is what paralyzes the nervous system and gives rise to the symptoms present.

No definite line of treatment can be laid down; we merely enumerate a few remedies which are found to be of utility in every case. All authorities agree on the fact that the bacillus is promptly annihilated by an acid, hence copious enemata, repeated several times in the twenty-four hours, of lactic and tannic acids, with peroxide of hydrogen in distilled water, internally. A selection of remedies should be made from some of the following intestinal bactericides: Salol, naphthalin, sulphocarbolate of zinc, Warburg's tincture; and all spasmodic action held in abeyance by administering small doses of the compound tincture of lobelia.

Our readers will find as a prophylactic remedy, that none excels the ozonized coca wine, its acidity, its powerful bactericide properties, being such that it wipes the comma bacillus out of existence.

CHOREA.—Inco-ordinated movements, which prevent and interfere with voluntary motion, cease during sleep, are pathognomonic of chorea.

Choreic movements on one side of the body may precede and follow hemiplegia. An extreme form of this affection, with quick involuntary movements, is common in spermatorrhea due to masturbation, in which maniacal excitements, physical disturbance are common, associated with which are irritability of temper, emotional attacks and mental enfeeblement.

The jar, the want of equilibrium between the gray and white matter of the brain and spinal cord, to which this affection is due, may be the result of shock, mental overwork, or emotional disturbance, the ptomain or toxins of disease germs, especially those of rheumatism and syphilis—the same poisons which give rise to endocarditis. In eighty per cent of all cases the toxins of rheumatism; in the other twenty per cent, a ptomain identical in toxicity is present.

In the treatment of chorea, no definite rule can be laid down. All predisposing and exciting causes must, if possible, be removed, such as masturbation, worms, rheumatism, emotional shock, and every effort made to improve the general health and increase the nutrition of the body, by daily baths, massage, country air and best of diet.

If the chorea can be traced to irritation of the reproductive organs, masturbation or sexual excesses, in either sex, they should at once be placed on large doses, as large as can be, of the tincture of the green root of gelsemium, as this is our best genital sedative and aphrodisiac, an allayer of all irritation in the sexual glands.

The reproductive organs of both sexes are largely supplied with sympathetic nerves. No medicament equals gelsemium, it soothes or sedates the motor tracts of the cerebro-spinal system, and controls the sympathetic ganglia. The dose must be such as will control the involuntary movements.

Try it. If it fails, combine it with passiflora incarnata, which aids its action immensely, both being active sedatives.

If the heart be irritable, feeble, with capillary circulation languid, add to the gelsemium small doses of strophanthus. The action of this combination is soothing, strengthening to the heart muscle.

Skullcap is another remedy from which marked benefit is derived in chorea. Administered in large doses, its action is restorative to the jarred gray and white matter of the cord.

The ozonized fluid extract of musk root is another invaluable remedy in chorea. Good results always follow its exhibition in one-half the cases. It completely controls the involuntary movements. In the other half its administration is a failure.

The never-failing remedy in all cases and under all conditions of life is the ozonized solution of cacodylate of sodium. This remedy undoubtedly acts by its promoting nutrition of the nerve centres and heart.

The success of this remedy depends entirely upon its mode of administration. It should be commenced in small doses and gradually increased dose by dose, until its physiological action is obtained. Then it should be diminished to drop doses, never left off altogether, but when all untoward symptoms subside, then gradually increase, always added to a little water and given after meals.

Thyroid extract and c. p. solution of spermin have effected some excellent cures.

What percentage of cases of chorea and epilepsy are due to the germs of tubercle and syphilis, no one can correctly appreciate. A weakened patch in the brain or bulb, with either of those two disease germs in the blood, will give rise to epilepsy. An imperfect nutrition or weakened patch in brain and cord, with impaired nutrition of the nervous ganglia, or group of nerve cells, with the same or other germs present, will give rise to chorea. Besides, there are the ordinary reflex causes. The two affections demand an alterative and tonic course of remedies—all the time—with repeated small blisters of about the size of a silver dollar, to nape of neck, for six hours daily, twice a week, as there is always a coexistence of spinal tenderness, greater spinal impressibility and other hybrid ailments. In addition nothing should militate against the use of *avena sativa* day by day, as the tissues are starved. It increases the motor power of the heart, tones the nerves, increases the number of nerve cells, overcomes the want of equilibrium between the gray and white matter of the cord; relieves insomnia, overcomes mental weakness, and inco-ordination of muscles. If, however, the motor phenomena are peculiarly violent, the patient must have rest—rest from excitement, from noise, from harsh words, from taking any active part in the struggle of life.

We do not endorse the use of bromides in either; it is true they suspend the reflex impressibility of the medulla oblongata —the seat of reflex action—but it is also *too* true that they

diminish nervous energy; *true* vital stamina is lowered; motor and sentient power diminishes under their use. They soothe, dispose to sleep, but they blunt the intellectual faculties, impair the memory, confuse the ideas, render the individual dull, stupid, apathetic, with a tendency to somnolence. They impede speech, weaken special senses, make the body infirm, feeble, unsteady. Its effects on the ovaries and testes are to destroy, or obliterate the secreting cell; being analogous to castration, so that sexual power is abolished. The bromides devitalize the mucous membrane of the stomach, give rise to gastric catarrh (sarcina ventriculi), nausea, flatulence, etc. It also slows the heart, covers the skin with (bromine rash) acne.

Now, none of these symptoms are produced by the ozonized fluid extract sumbul. It has precisely the same action upon suspending the fits or the choreic twitching, but never impairs, nor damages, nor atrophies the sexual apparatus. The bromide craze has had its day. Many brilliant minds have been wrecked by its indiscriminate use; it has caused impotency to be very general and sterility exists from its use to a very alarming degree.

The most eminent authority in this country says that chorea is want of equilibrium between the gray and white matter of the spinal cord.

Predisposed to by inherent nervous debility, and brought into active existence by the toxins of disease germs, such as the bacillus amylobacta and others. Sometimes it comes on suddenly after some emotional excitement, fright, fear, anxiety, worry, etc. Often the sequel of reflex irritation, such as worms, masturbation, constipation, burns.

Most common between five and fifteen.

Characterized by irregular movements, which increase under observation or excitement, and cease entirely during sleep. In this neurosis, the involuntary movements are very variable, from a mere restlessness or awkwardness of manner to grotesque expression, etc. The patient cannot keep still, constantly either raising shoulders, jerking his head, twisting fingers, shuffling feet. The symptoms present in each individual case depend upon what portion of the cord is implicated in the neurosis or jar. If from a fright, or some emotional condition, the cervical portion of the cord involving the sympathetic is affected; then the muscles of the face and larynx are involved. Stammering results, difficult mastication, swallowing, choking spells.

Lower down the cord, hands, arms, side of the body, may become seriously implicated.

The general health in chorea is always impaired, and the case is of such a nature that it speedily causes mental deterioration, and might terminate fatally through some complication, as organic cardiac disease.

If a child, it should be taken from school, placed under the most perfect hygienic conditions attainable; if of more mature years, they should suspend all avocations, lay off till recovery is assured.

The general health should be built up, the system fortified by every possible means, nutritious food, bathing, massage, flannel clothing, rest, and healthful surroundings.

Then the attending physician will select a remedy, probably some one of the following which he deems the most efficacious in curing the malady.

It is not necessary for us to discuss whether the pathological condition be due to a toxin of the amylobacta or to a lesion or jar.

Cocodylate of sodium has acquired a firm reputation as a bactericide, a promoter of nutrition, and if properly managed as to its dosage will cure every case of chorea.

An ozonized solution is probably the best form, as the dose can be well regulated, added to water and given with the meals.

In prescribing the cacodylate in chorea you are sure of success, so it is well not to rush it, beginning with 2-drop doses thrice daily, increasing the dose each day by one drop additional, until its physiological action is obtained. As soon as this is visible decrease dose by dose, in the same manner as it was increased, continuing in this way between the minimum and maximum until a cure is effected.

Passiflora incarnata is rapidly acquiring a reputation in the cure of chorea. An excellent remedy, a rejuvenator of the great sympathetic, a vitalizer, a reconstructive of our entire nervous system. As it is non-poisonous, it can be administered in large doses. If it fails in arresting the involuntary movements, add to each dose a few drops of the tincture of green root gelsemium.

Chloral hydrate is another remedy from which excellent results can often be obtained. It has a peculiar and marvelous action of its own, a powerful germicide, rectifies, fortifies the nerve centres, prolongs sleep indefinitely, gives nature a chance to recuperate. As an enema it is even more beneficial than when administered orally.

Skullcap is a remedy in the form of a decoction that is well adapted for patients of mature years. Taken just as freely as the stomach of the patient can tolerate it, so as to induce a partial suspension of the nervous system, which is recognized by numbnes or anesthesia of sensation and partial paralysis of motion, it will do good, energizing work in chorea.

Protonuclein, the active principle of life, is suppository form, will cure chorea. Although this remedy, chemically speaking, is a phosphorized proteid, its therapeutic effect is to induce leukocytosis, a vast increase of white corpuscles in the blood stream, augmenting vital force, cohesion of the chaotic cord. Take it all in all, it is a good curative agent in chorea, best in suppository, as it is active as a reconstructive without stimulating the heart.

CIMICIFUGA RAC., FL. EXT.—Of special utility in acute rheumatism. Stimulates the nerves of nutrition, efficacious in whooping-cough and all spasmodic diseases.

CINCHONA.—The bark of the cinchona tree, commonly known as the Peruvian bark.

Therapeutical Cases.—Tonic, vitalizer, contains numerous alkaloids of immense value, and a vast number of preparations.

Cinchona Fl. Ext.—Dose, 10 to 30 drops added to water, every three hours. The most valuable tonic in the materia medica, protects the red corpuscles of the blood from the malarial and other germs; promotes an appetite, increases the assimilation of nutritive matter, the number of red discs in the blood, as a tannate, in the form of port wine and cinchona, with aromatic sulphuric acid, is one of the best of all tonics at the change of life.

Port wine, one quart; Peruvian bark, one ounce; pulverized cloves, cinnamon, each one ounce; one dram of quinine and one ounce of aromatic sulphuric acid; dissolve these two together and add to the wine. Capsicum should be added. Half a teaspoonful to a teaspoonful is a dose.

Prunia, four ounces; sulphate of quinine, two drams; aromatic sulphuric acid, one ounce. Mix. S. One teaspoonful, so patient takes three prior to chill.

Bisulphate quinine, sixty grains; syrup licorice, two ounces. Mix. S. Doses sufficient.

CIRSOCELE.—A term used ambiguously and synonymously with varicocele; a dilated condition of the veins of the testes and scrotum, feeling like a bag of worms.

If not amenable to the usual treatment, by the application of the distillate of witch hazel, thrice daily, the wearing of a suspensory during the day, and persevering with tonics and nutritious food, ligature is resorted to with very poor success.

CIRCUMCISION.—A sacrament of the Jewish Church, introduced by that great, far-seeing Law-Giver, Moses, consists, as performed by the rabbi, of a mere slit of the superior aspect of the prepuce. The flaps or ears on each side of the slit are, in the course of a few months, entirely absorbed, leaving the corona glandis completely uncovered, consequently phimosis and paraphimosis never appear.

In adult life it is usually performed for the relief of those two affections, and it is necessary to remove it entirely, uniting the cut surfaces, skin, and mucous membrane with lead-wire sutures and applying a dressing of peroxide of hydrogen.

The performance of circumcision has many advantages, some few disadvantages. When removed, no secretion of smegma is possible, to excite balanitis; no abiding place either for the micrococcus of gonorrhea, or microbe of syphilis, or rank secretions (microbic) of courtesans, or the germs of herpes preputialis, or chancres. There can be little doubt of its removal promoting the growth of the penis; its disadvantages are few, blunting or deadening the nerves of the corona glandis the only one worthy of mention.

CLITORIS.—In ballet or dancing girls, cyclists, the clitoris if often attacked with inflammation, effusion of lymph, and enlargement. In some cases the hypertrophy is great, and terminates in abscess; in other cases, in cystic degeneration. The excessive development is in some cases congenital, being so large that some are in doubt but that they may be males. The clitoris is sometimes the seat of cancerous deposits. The entire organ may be diseased, or its prepuce.

Induration or enlargement may be due to self-abuse.

The treatment of inflammation, and its results, must be upon general principles, with alteratives and tonics.

CIRRHOSIS.—A diseased condition of various organs of the body, embracing chiefly the liver and kidneys, and charac-

terized by the formation of fibrous tissue in these organs. This hard tissue either contracts or enlarges, thus giving rise to either atrophy or hypertrophy. In the former it is hard, surface nodulated, with edema of the legs; in the latter usually jaundiced and no dropsy.

Its great causative factors may be alcohol, syphilis, mercury, malaria, defective and perverted digestion, auto-intoxication, gastritis, intestinal obstruction, and whatever favors putrefaction of intestinal contents loads the liver with toxic substances which it is unable to destroy, and it becomes overworked, either atrophied or hypertrophied, and its normal structure usurped by fibrous tissue.

Although the malady may be incurable, still by the removal of the cause, and the administration of periodate aurum at night, and the chionanthus virg. during the day, a stay on the morbid condition is induced. Many recoveries are noted. In my experience with the fringe tree bark in cirrhosis, I deem an infusion to be the most efficient agent in the materia medica.

Although an incurable affection, much can be done to arrest its progress and prolong life. The removal of the invading agent which produced the fibrosis is a point; whether it be alcohol, malaria, carbonaceous substances ingested, solar heat, drugs, syphilis, it is immaterial, for no remedy can restore the cells of the injured machinery by which the crippled organism survives. It matters little whether the degenerative changes are either fatty or amylaceous, if the damage is done by an increase of fibrous tissue and the condition shows fat or starch, alcohol in all its forms must be rigidly forbidden, as well as all fat and starchy food—the physiological function of the liver must not be taxed with either. Diet must be nutritious, be restricted to white fish, eggs, milk, bread, fruit, and vegetables. Daily bathing, massage.

The indigestion relieved with comp. tinc. matricaria and phosphate of soda, which will arrest the fermentative changes on the stomach.

If it be due to alcohol and syphilis, the kolatina tablets operate well, one every night at bedtime. They are of signal service, with a few grains of periodate aurum, and during the day, comp. saxifraga, effect marvelous results in the liver—arresting changes and gummatous formation. The action of syphilis and alcohol, together with malaria and solar heat, closely resemble each other in the production of cirrhosis of the liver. Kolatina, periodate aurum, saxifraga, effect very

searching action in restoring some of the dilapidated cells, effect combined a standstill of growth of morbid tissue.

Continuous stimulation over the liver by means of a large guaiacol plaster should never be overlooked, as it invariably does good, arresting degenerative changes, aiding absorption, thus clearing the gland of all debris, old broken-down cells.

In the management of all cases of cirrhosed liver, there are two complications of great magnitude, and these are a weak, dilated heart, and abdominal dropsy. For the former we need digitalis and creatinin; for the latter, apocynum, a drug of unexcelled merit.

Ascites is a sure sign that the tension in the portal vein and its tributaries in the peritoneum has been raised to the oozing point, or that inflammatory effusion has taken place, that the liver function is seriously impaired.

The mere mechanical affection of the distention of the abdomen is serious; all the viscera are compressed, their working faculty impeded; the diaphragm is pushed up, embarrassing both the organs of circulation and respiration, thus a variety of complications are set up.

Apocynum, ozonized tincture, in from 5- to 30-drop doses, has a special action in all cases of ascites, although many physicians prefer the decoction.

COCA.—The leaves of the *Erythroxylon coca,* which grows abundantly in Bolivia and Peru.

Physiological Action.—Its administration increases the heart's action, by stimulating the ganglia of the great sympathetic; energizes the pneumogastric and vagus; equalizes the motor cells of the gray matter of the brain, arrests normal metamorphosis; appeases thirst.

Therapeutical Action.—Chewing the leaves will appease hunger, thirst, fatigue. It is an excellent remedy for dipsomania, the opium, chloral, and alcohol habit. It restrains tissue metamorphosis, diminishes the amount of urea excreted; valuable in wasting diseases and in the convalescing stages of fevers; a tonic with wide range of action.

Whenever you need the aid of a potent drug to sustain the vital power, under the condition of extraordinary fatigue and privation, prescribe coca. It promotes cohesion of nerve force; especially useful in nerve tire, worry or exhaustion.

It contains a valuable alkaloid, *muriate of cocain,* an anes-

thetic to the mucous surface of intensely sensitive parts, as the ear, nose, mouth, urethra, vagina, rectum.

Preparations and Doses.—A bolus of the leaves is used for chewing.

A fluid extract in 30- to 60-drop doses.

Coca et celerina, same dose, great utility in neurasthenia. The wine is a tonic especially adapted to public speakers, singers, actors. It is a tensor to the vocal cords, strengthens and increases the volume of the voice.

Coca wine, dose, a tablespoonful.

Cocain suppositories, whose use as a genital sedative is invaluable. For all neuralgic or painful conditions of the rectum, they are excellent.

COFFEE.—Medicine is but a means to a desirable end; often it is very disagreeable. Patients cannot take it at times, because it is nauseatingly objectionable. On this very account is the doctor so often the bugbear of children. On the other hand do we constantly find patients craving food indulgence. Perhaps one of the commonest foods is coffee, and it is one of the first things many recuperating patients call for. But it is one of the things that it is a routine practice to forbid sick people the use of.

There is no reason why coffee should be cut off when nux vomica or other nerve stimulants are given, for one aids the other; they are, therapeutically, *synergistic*. Convalescence is often hastened by the use of a good brand of well-made coffee. It is a much better stomachic tonic in many cases than any of those having a regular place in the materia medica. We have known physicians to destroy what little appetites their patients still had left by the peremptory withdrawal of their coffee. The interdiction of coffee to all sick people is a routine practice that is indefensible. Cases of nerve exhaustion do better with it than they do without it. This is the rub. There are exceptions. One of these is when coffee sets up stomach trouble and so-called biliousness. But it seldom does this if the coffee is properly made. We have never seen anything but good results follow the use of coffee made as follows:

Java and Mocha coffee should be blended to suit the taste. The roasted beans are to be finely ground, the finer the better. A tablespoonful of this coffee is to be used for each cup of water. It is wetted with enough cold milk to give the finished product a rich light brown color. say two tablespoonfuls of milk

to each one of ground coffee. This is allowed to stand in a closed pot for at least five minutes. At the end of this time boiling water is poured over the milk and coffee mixture, a cupful to every tablespoonful of ground coffee, as already stated, after which the pot is again closed and set over a moderate fire to simmer for about ten minutes, or to boil for one or two minutes. It is then ready. If not used at once, it should be decanted so as to avoid the abstraction from the coffee grounds of those ingredients that spoil the taste of the coffee and injure the stomach. Coffee thus made is not bitter, and when bitter, it has abstracted objectionable material, it has boiled or simmered too long. Coffee thus made does no injury, but it is a nerve stimulant, or appetizer; it cheers, invigorates, and aids digestion.

Attention to its mode of preparation, provided the correct kinds of coffee are used, insures to a patient one of the best aids we have to hasten and perfect convalescence, or to sustain one under nervous strain, due to operation or other depressing influences. The exceptions do not preclude its use where it does unquestionable good.

When there in a community the germs of typhoid fever, cholera, erysipelas, scarlet fever, and the various types of malarial fever, which are transmitted almost entirely through the medium of food and drink, coffee is a valuable agent, and may be used as a drink instead of water.

It is a valuable agent in assisting the digestion of food, and aids the blood in taking up more nourishment than it would without it.

It quickens the circulation of the blood and respiration.

It is also stimulating and refreshing (due to the caffein it contains).

In tiding over nervousness in emergencies, it is a sovereign remedy.

Taken in the morning before rising, minus cream and sugar, it acts in many cases as a superior laxative (probably from the hot water contained in it).

As a stimulant and caloric generator in cold weather it is one hundred per cent ahead of whisky and other liquors.

As a disinfectant it is one of no small usefulness in the sick chamber.

The use of coffee as a disinfectant is generally known, but it is doubtful if the majority of people are aware of its true value in this direction. They probably know that it is handy and

harmless; but besides these qualities it is really one of the most powerful and effective agents known, as has been shown by repeated experiments. In one case a quantity of meat was placed in a close room and allowed to decompose. A chafing dish was then introduced and 500 grams of coffee were thrown on the fire. In a few minutes the room had been entirely disinfected. In another room, the fumes of sulphuretted hydrogen and ammonia were developed, and the smell—which no words can express—was destroyed in half a minute by the use of 90 grams of coffee. As a proof that the noxious smells are really decomposed and not merely overpowered by the fumes of coffee, it is stated that the first vapors of the coffee are not smelled at all, and are therefore chemically absorbed, while the other smells gradually diminish as the fumigation continues. The merest "pinch" of coffee is usually sufficient to cleanse a sick-room, even in aggravated cases. The best way to employ it is to freshly pound the coffee in a mortar, if no mill is at hand, and sprinkle it on a red-hot iron surface.

Caffein citrate is the best form for medicinal use, and it is to this that the kola nut paste owes its marvelous power in habitual constipation.

Invaluable also as a bracing tonic in chronic diseases.

Dose, 1 to 2 grains every three hours, or more frequent. This remedy is indicated in all forms of headache or neuralgia; of the greatest efficacy in all organic affections of the heart, with imperfect compensation; regulates the heart's action; operates well in chronic interstitial nephritis, with edema and difficult breathing, as a diuretic and antidote to opium poisoning, and appeases the appetite for stimulants.

COLD.—Acts chiefly from without, freezing inwards, causing serous congestion of the three great cavities; with giddiness, inability to see, weakness, and rigidity of limbs; almost imperceptible respiration and pulse; tendency to profound sleep, or coma. Patient must be placed in a room without fire, and an attempt made at restoration of circulation and sensibility, by rubbing the body with snow, or ice, or cold water. Frictions with flannels, long continued; very gradual application of warmth; a stimulating enema, warm milk, with capsicum, coffee, beef-tea, or warm wine.

COLIC.—Cramp, spasm, neuralgia of the nerves that supply the circular muscular fibres of the intestines, is a most ex-

cruciating, painful affection; it may be produced by any toxin or poison, indigestible food, giving rise to fermentation and bacteria, acrid bile from a congested liver, worms, irritants, and poisons generally; it may be due either to cold or to a metastasis of gout or rheumatism or obstruction.

The pain of colic comes and goes, rolling or twisting in character, relieved by pressure. There may or may not be vomiting. In some cases the spasmodic action may be so acute, so intense and exciting that fecal contents are vomited.

The pain is usually so severe, the reflex effects so disastrous, that immediate relief is imperatively demanded.

Heat and moisture are always at hand, and they should be applied with a liberal hand, hot, moist application over the abdomen, hot baths, hot drinks of warm water, with euphorbia pil.; warm water enema, 102 degrees F., with a teaspoonful of the same remedy to the pint of water.

In administering these enemata, place the patient on the right side, with the hips well raised. If these remedies fail, administer chloroform orally, and chloral hydrate as an enema, with concentrated ozone to the entire abdomen.

Once relieved, if the cause can be ascertained, then special remedies to meet the pathological condition as if due to fermentation of undigested food, administer siegesbeckie tablets; if due to acrid states of the bile, give periodate aurum; if due to rheumatism prescribe glycerite of wintergreen, in essence of menthol, with a cocain suppository.

What is termed lead colic, is much more common than is generally understood; drinking water from tin or leaden vessels, cider prepared in lead; claret wine, to which is added acetate of lead to taste more cooling.

Its diagnosis is based upon the history of the case, a peculiar aspect of the skin, blue line on the gums, dyspepsia, constipation, and depression of spirits. In the seizure severe pain ensues in the region of the navel, a feeling of indescribable wretchedness, vomiting, constant change of posture, struggling or crying with pain; stools, if passed, are dark-colored and in knotty lumps; tongue pale; tremulous, if not relieved; inflammation, delirium, convulsions, paralysis, apoplexy, asphyxia, gangrene of bowels.

Lobelia and opium. Let the patient drink freely of warm water with these two remedies. They are valuable specifics; soon give relief. Iodide of potass in saxifraga unites with the lead and eliminates it from the body. Sulphate of alumina,

in 5-grain doses, thrice daily, prevents the ingress of lead into the body. Quinine, with capsicum, are the best remedies for the paralysis, with rest and massage. Warm bath with one pound of sulphuret of potassium unites with the metal and eliminates it from the tissues.

Canned fruit and vegetables in tins give rise to irritation of the intestinal nerves; fine, delicate nerves supplying the muscles, the duodenum usually first affected. As a prophylactic, 15 drops of aromatic sulphuric in a glass of lemonade is good thrice daily; the iodide potass. in comp. saxifraga, when administered, unites with the tin and eliminates it from the body.

Colic in hand-fed infants is due to swallowing air along with their food and to fermentation, which can be obviated by fennel seed tea, slightly acidulated with lactic acid. Failing in this, and the colic severe, the best immediate treatment consists in irrigating the lower bowel with a large quantity of warm water or administering a copious warm enema. The application of hot fomentations to the abdomen and of warmth to the feet are also serviceable and 20 drops of brandy and a dose of carminative may help to relieve the child. An aperient is usually indicated to clear away irritating matter, and if the bowels are habitually constipated this should be attended to.

When there is obstinate recurring colic small doses of passiflora are occasionally useful as a palliative while the diet is being gradually regulated. The alleviations thus produced encourage the mother to persevere. Other children who have chronic indigestion accompanied by recurrent colic are often relieved by small doses of protonuclein, taken immediately before meals.

COLLAPSE.—A state of condition that signifies great depression of vital power, liable to follow any accident, injury, or concussion, or inhalation or absorption of any poison, or any depressing passion or excess.

Symptoms are very variable. Most commonly, however, we find the patient lying on the back, with a cold skin, feeble pulse, sighing respiration, half unconscious. If the force of the shock or injury, or poison, has fallen upon the vascular system, there will be syncope or fainting, pulse and respiration imperceptible; if upon the nervous system, patient bewildered, incoherent, vomiting, coma, convulsions, paralysis of sphincters.

The duration of the stage of prostration is variable, depend-

ing on the power of vital resistance inherent in the patient and the amount of violence inflicted or poison absorbed or degradation of living matter, commonly from a few to forty-eight hours.

The mode or manner of recovery from shock or collapse is termed *reaction,* everything depending on the nature, degree, or quality of that reaction. If, aided by proper means, it is perfect, we have recovery; if in spite of our best efforts it is altogether wanting, we have death; if it is imperfect, then it is followed by *fever,* a salutary effort of vital force for recovery.

The indications in treatment are to stimulate vital forces to healthy reaction. If the patient is cold, shivering, respiration and pulse feeble, diffusible stimulants should be administered, such as brandy and water, or capsicum, or some preparation of ammonia; if incapable of swallowing, the same remedies should be administered by the rectum in an emulsion of slippery elm, and spirits of turpentine added.

COLLINSONIA.—Stone root possesses most extraordinary properties, being astringent to the entire intestinal tract. In its action it resembles stone crop, the great bowel invigorator and antiseptic, hence it is of great value in diarrhea, dysentery, gout, catarrh of the bowels, bladder, uterus. Take it all in all, it is a most remarkable drug in all rectal affections.

Preparations and Doses.—From 30 to 60 drops of the fluid extract every three hours. No other preparation of any value.

COMA.—Deep sleep, one deeper than stupor, may be due to fracture of the skull, effusion of serum or blood, cerebral softening, with paralysis; to microbes or gases poisoning the brain; urea in the blood; the action of acronarcotics.

The treatment must be according to the cause; administering remedies either by the stomach, rectum, skin, generally to neutralize a poison, an offending material—then to rouse up vital force by friction, shampooing, flagellations, electricity, enemata of glycerin with peroxide of hydrogen; a drop of a one per cent of nitroglycerin on the tip of the tongue has a magical effect on the heart and brain.

CONIUM MACULATUM.—Of all acronarcotic drugs, conium is the only one that perfectly inhibits the evolution and growth of the cancer neoplasm, and all that group of germs which give rise to symptoms of malignancy; it is there-

fore a remedy which stands alone, useful and powerful for good. It can, under all conditions, be given with perfect safety, and can be relied upon when administered in allaying irritation, subduing pain, upholding the powers of the constitution; favorably influencing nutrition and secretion.

Pain is an essential symptom of malignancy; of degenerate changes; of nerve and arterial derangement, and conium abrogates the pain of that formidable malady; affords comfort when life is intolerable.

The conium extract, combined with elixir red, is the best form for general administration, efficacious and reliable, never fails to relieve pain, renders life comfortable. As regards the dose, limit it by its effect; it need not be stinted by any rule.

When commencing, half of a three grain pill every three hours will be sufficient, but after a week or two it can be increased to one and still larger doses.

It can in all cases be depended on to relieve pain and render life tolerable indefinitely.

CONTINENCE AND INCONTINENCE OF URINE.—Continence, or an inability to pass urine, may be due to excessive acidity of the urine; overirritability of the muscular coat either from the acidity or overdistention; weakness of the sphincter; reflex irritation, as balanitis, adhesion between prepuce and glans penis, smegma around the corona; drinking excessively causing too great a flow; calculi; malformation; contraction of the bladder owing to hypertrophy of its walls; metastasis of the amylobacta of rheumatism, enlarged prostate.

Acidity to be overcome by alkalies, acetate potassa, uric acid solvent, fruits containing vegetable acids are changed in the system to alkalies; spasmodic contraction, belladonna, gelsemium; lack of force in the sphincter, ergot, salix nigra, passiflora incarnata.

Try alkaline baths hot; a stream of water from a height often starts by acting on the sympathetic. All failing, draw urine off.

Incontinence, an inability to hold the urine, is much more commonly met with than continence—extremely prevalent among children; neurasthenic ladies, and more rarely among adult males.

The causes are mainly the same as continence, inherent debility lying at the root of nearly all cases.

Try some of the following remedies: iron and belladonna;

gelsemium and bromide of soda; ergot; nux; damiana, cantharides, muira puama, rhus aromatica, salix nigra, pichi, passiflora incarnata, stone crop.

CONVALLARIA MAJALIS.—The leaves and other parts of the lily of the valley.

Therapeutic Action.—A valuable remedy in functional and organic disease of the heart. Its action is almost identical with digitalis in dropsy, not so definite as strophanthus, but a valuable remedy in heart mischief.

Chemistry.—Two glucosides have been insolated, also an alkaloid named maralin.

Preparations and Doses.—An infusion of 10 grains of the flowers to 6 ounces of water. Dose, tablespoonful at suitable intervals apart for dropsy.

A tincture and fluid extract are best adapted for general exhibition; small doses, watching its effects.

CONCENTRATED OZONE.—An extremely valuable and powerful anodyne antiseptic, with the property of penetrating to deep-seated parts. Its principal action is on the nerves, blunting their sensibility and thus relieving pain.

Rubbed over the entire abdomen and over the lumbar portion of the cord, it completely anesthetizes all the sensient uterine nerves, not in any way interfering with the motor, and thus relieves the pain of parturition. The insertion of a few obstetric cones renders labor painless (millions of ladies use them) with a certainty.

It is a remedy for the relief of all human suffering—a perfect anodyne to pain. It is best to oil the part, then rub it in.

Internally in one or two drop doses, in syrup, it is a sedative and anodyne; a safe hypnotic for children; relieves colicky pains of the intestinal tract and toothache.

CONVULSIONS.—The common predisposing causes are an unstable and irritable nervous system; the exciting causes are rickets, laryngismus, stridulus, blows and concussions on the head, cerebral hemorrhages, birth palsy, meningitis, uremia, pneumonia, fevers, etc. Most causes are all forms of reflected irritation, as teething, worms, burns, injuries, indigestion, asphyxia, invariably associated with malnutrition of the nervous system, giving rise to coarse brain lesions.

The immediate treatment of convulsions, from whatever cause, should be the immersion of the body in a warm mustard

bath, drying, followed by friction over the entire body. If not prompt relief, follow with enemata of warm water into which one teaspoonful of euphorbia pil. is added. This is never-failing, provided life is not extinct. The same remedy internally, 15 drops in warm water and repeat if necessary, is excellent to correct the disordered brain function, cerebral neurosis.

Two-thirds of the convulsions in children are due to auto-intoxication from the decomposing products of digestion, no remedy is so effectual in antagonizing those products and intestinal bacteria.

Euphorbia pilulifera is a safe, reliable remedy in the cure of convulsions; as a prophylactic one of the best.

Convulsions occurring during the progress of parturition: Convulsive movements of the limbs, muscles of the face; dilated pupils, red or livid countenance, fixed or convulsive eyes, foam at the mouth, involuntary escape of urine and feces.

The ptomains are present in the blood in all cases and it is imperative to remove all sources of irritation. Empty the bladder and rectum, place a piece of rubber between the teeth. Give infusion of lobelia freely by mouth and rectum as soon as possible. If the urine is albuminous and scanty, give diuretic teas, then administer bactericides, such as either peroxide of hydrogen, or resorcin, or salicylate soda in siegesbeckie, or bromide of ammonia with passiflora to neutralize the ptomains.

CONSTIPATION has come to be a very common ailment, not only with sick people, but among those who call themselves well. It is one of the many symptoms of that very prevalent disease, dyspepsia. Its causes are numerous and varied. Anything that interferes with the digestive process may produce constipation, at least temporarily. With feeble people, a little overwork, mental or physical, will render digestion imperfect; and the food not being properly elaborated remains in the alimentary tract, undergoing partial decomposition. The gases that are given off distend the stomach and bowels, causing pressure on the nerves in the adjacent organs, which is sometimes followed by severe pain, perhaps cramping. The latter can generally be relieved by the application of hot compresses over the affected part; or if the trouble is in the stomach, a glass or two of hot water will send up the gases, relax the contracting muscles, and stop the cramping.

A very common cause of constipation is the use of white flour bread; it should be banished from our tables. Another

cause of extreme torpor in the bowels is highly seasoned food. Those who like their foods well salted, hot with pepper and other condiments, will sooner or later have impaired digestion in some form. Persons who are inclined to be plethoric frequently have a sloughing condition of the bowels, a looseness; in other words, diarrhea, which may in time become chronic. But those who are lean and muscular often suffer in a different way. The use of salt, pepper, spices, and other irritating substances begets inflammation of the mucous membranes. This burns up the natural fluids which are intended to lubricate the parts, and they are rendered dry and harsh. After a time the bowels become shriveled, inactive, torpid; they can only be evacuated by persistent straining, and finally they will not move at all without assistance. Much sugar clogs the liver with saccharine matter, and it fails to do its work; the bile is retained in the blood; and the feces, no longer softened by that natural lubricant, become impacted in the colon, as well as in the small intestine. The latter then loses its function, and cannot secrete those intestinal juices which should aid in the digestive process.

And so it is that the individual goes on from bad to worse; his food distresses him, or it fails to nourish. He suffers from nervousness, insomnia; he has periodic headaches, or a rush of blood to the head. In some instances there is twitching of the eyes, or the muscles of the face; and there are symptoms of St. Vitus' dance—tetanus. The hands and feet are inclined to be cold, and the general circulation is sluggish. The odor from the body is offensive and the breath the same, owing to retained fecal matter which is poisoning the system. In fact, all the excretions have a foul odor; and the blood is so thick that it can scarcely circulate in its vessels, especially the capillaries.

The pulse at the wrist is heavy and indistinct, sometimes the beats intermittent. There is a sense of oppression about the heart; and the patient wonders if he has organic disease of that organ. He can settle the question, however, by finding out whether his pulse is normal at any time; for if the beats are not regularly irregular, there is no organic affection. There is simply functional disturbance; though constant dosing with digitalis and other medicines that are often given to whip up the heart's action will very soon create trouble that may be serious.

This suggests another cause of chronic constipation, and

other dyspeptic symptoms. Those who take much medicines are frequent sufferers from stomach troubles. The contents of the apothecary's shop do not strengthen the digestive organs, but weaken them, though the victims are sometimes very slow in finding it out. Usually they wake up to that fact after the mischief is done. Patients who, from any cause, have been long ill usually attribute their bad feelings to the disease—whatever that may mean. Very few understand that they are making their own diseases as they go along; they see little or no connection between incorrect habits and their physical ailments. Our people need to learn what is meant by good health; that it is the product of right living; and if we disregard the known laws of physiology we destroy health. It is only as we learn to relate ourselves normally to those life-giving agents around us that diseases can be avoided and good health secured. Pure air, pure water, wholesome food, regular and correct habits—these are what constitute health; they enable us to preserve it. We cannot continue to enjoy it if we lead reckless lives.

Exercise, rest, sleep, fresh air, sunlight, plain food, all are needed to give us a sound mind in a sound body.

But suppose we have already parted with that inestimable boon, good health, what is to be done? If we have eaten badly, lived in stuffy offices filled with tobacco smoke and other impurities, taken sleep at all hours or done without it, worked from morning till night with little or no relaxation, and violated generally the laws that govern human life, what then? We must take the road back, as nature points it out. We must cease to do evil and learn to do well. If there is such a thing as a correct dietary let us find it, and take only as much food as the system can appropriate. We must also partake of it under conditions that favor perfect digestion; not eat in a hurry, rush off to business, and divert the blood away from the stomach to other parts of the body. Neither should we put faith in any or all of the so-called aids of digestion. These are frauds, every one of them; and we shall make this discovery after having been victimized a few times. These are ways to cure that are natural, and that address themselves to our reason; ways in which normal function can be restored to organs that are weak or debilitated.

On examining a patient who suffers from chronic constipation, we shall probably find one of two conditions: either there is a hollowness or cavity below the ribs, down where the

stomach and bowels are supposed to be, or else a full and plethoric state—an abundance of fat with very little muscle, and the bowels more or less distended with gases. In either case there is a loss of muscular fibre in these parts, and the power to contract is feeble. The abdominal muscles have also wasted away, and the spaces that they formerly occupied are filled with loose areolar tissue, or with layers of adipose; either that, or there is next to no covering over the intestines except a shriveled skin.

But how are we going to bring back normal functions to organs that are torpid? The peristaltic action of the bowels has been reduced to a minimum, and the same causes have been at work to weaken the abdominal walls. These must be strengthened; we must promote growth of muscular fibre, not only in the bowels themselves, but in the muscles around them.

The contractile force must be increased. There are several methods which we may employ in order to do this. If the patient is a woman, the first thing generally (if we want the best and quickest results) is to throw away the corset; also loosen the skirts and other underwear, and suspend everything from the shoulders. Then the muscles must be called into exercise, either by thorough hand manipulation or in some other way.

A quick sponge bath in the morning, a light but wholesome breakfast, and a brisk walk once or twice a day in the open air and sunshine, will do much towards bringing fresh color to faded cheeks. Many are dying daily for lack of oxygen; and if we stint ourselves of this life-giving agent we shall suffer for it. Among business men and women, the heaviest meal at night does much to ruin health. It generally leads to late hours; or if we retire on a full stomach the sleep is disturbed. Whether, as business is at present arranged, the heartier meal can come earlier is an important question. There is no doubt that taking only a very simple repast, say theree hours before bedtime, is, as a rule, conducive to good, sound sleep.

If we add to these exercises a simple and nutritious dietary, this consisting largely of fruits (raw ripe fruits especially), grain preparations well cooked, a few fresh nuts rather than so much meat, and some plainly-cooked vegetables for the heartier meal, the most obstinate constipation can be overcome. For a time you may have to move the bowels with

enemas of tepid water, but the latter should be gradually reduced in quantity (absorbed if need be), until none whatever is required. An occasional meal of raw ripe apples exclusively will help to produce normal evacuations.

By methods apparently so simple and yet so effective, we strengthen tissues that have been weakened, give tone to disabled organs, and restore functional action after it is well-nigh lost. This is the natural way; but the one commonly pursued is to swallow a cathartic, provoke vital antagonism in the alimentary tract, and cause the bowels to forcibly expel their contents. Then in a day or two there is just as much torpidity as before, and the same need of a purgative. We weaken rather than strengthen the intestines, and finally they refuse to act altogether. Let us go back to Nature and learn her way of doing things; she is the best physician.

Kola-nut extract in the form of paste or lozenge is the remedy for constipation, when due to a deficiency of vital force and normal secretions in the alimentary canal; it is the remedy when due to deficient peristalsis from any cause, especially atony due to over-stimulation, which exhausts the various coats of the bowel. Kola-nut is the remedy where constipation is due to brain exhaustion; it is an unexcelled nervine, has an inhibitory influence on the wear and tear of the central nervous system. Kola-nut is the remedy when due to deficiency of bodily exercise or movement.

It is the remedy above all others when constipation is due to dilatation of the colon; to debility of the intestinal wall when an accumulation of feces takes place.

The evils of the administration of strong purgatives, suppositories of glycerin, repeated enemata, are they exhaust, enervate, wear out the tone of the different coats of the bowel.

Of all remedies now used for constipation, the glycerin suppositories are the most disastrous, as they drain off all the serum from the bowel, and predispose the rectum to cancer.

Provided there be *no* hernia, *no* manformation, *no* invagination or intussusception, rendering defecation difficult or painful, kola-nut extract is the proper remedy, because it vitalizes the entire alimentary canal, excites activity in the liver, increases secretion, stimulates peristalsis and copious evacuation. So regulated as to afford one motion daily, continued indefinitely; intestines all the time getting better and better.

In health and disease constipation gives rise to auto-intoxication, which is visible in the headache, fever, foul breath,

coated tongue, and backache from the distended colon, fecal accumulation in the large intestines. All disappear under the use of kola-nut.

Kolatina, also an extract from this remarkable tree, is invaluable. Made up in the form of 5-grain tablets.

The chief sources of auto-infection are the effete matter of the wear and tear of the tissues, foods, putrefactive changes, the toxins of disease germs.

All the secretions and excretions contain toxic products; in order, therefore, to enjoy health, elimination should be perfect; there should be no retention of morbid products.

Septic absorption, which is seen in the lassitude, the fever, the headache, gone feeling, is often due to arrested peristalsis, defective skin, impaired kidney.

The feces, from birth to death, are a living mass of germs and toxins, struggling for supremacy; so long as they are excreted, the individual is safe. Habitual constipation calls for a tonic and germicide, such as the kola-nut paste or lozenge; besides it increases peristalsis.

The cascara tablet or lozenge is perfectly tasteless, mild. Generally speaking, however, for inertia, or inactivity of the bowels, administer comp. matricaria before meals, and on retiring for the night a small piece of kola-nut lozenge.

A diminution of the peristaltic action of the bowels from either deficient secretion of bile or other intestinal fluids, or possibly obstruction, exceedingly common.

Habitual constipation is a common ailment. Its causes are numerous and varied; its effect auto-intoxication, with nervousness, insomnia, periodic headaches, cold feet, etc. Imperfect digestion, the use of baker's bread, highly seasoned food, much saccharine matter, clogs the liver, bile is retained, the natural lubricant is deficient, intestinal juices absent.

The eternal drugging, the contents of a drug store do not strengthen the digestive organs, but weaken them. We want health-giving agents around, that disease may be avoided. Pure air, pure water, wholesome food, correct habits, exercise, rest, sleep, fresh air, sunlight. All the so-called aids to digestion are simply frauds. Regulation of the diet is important, which should include oatmeal, bran bread and certain fruits. The habit of defecation after the morning meal is excellent. A sponge bath, a brisk walk in the morning sunshine, aids much, for all suffering from constipation are literally dying for want of oxygen. In all cases the grand remedy for

habitual constipation is the kola-nut paste lozenge, a small piece before retiring. It is a tonic, a vitalizer to the centre intestinal tract. It supersedes all other remedies, enemata often do good; glycerin suppositories *never,* but by draining off the serum of the lower bowel are most productive of cancer.

Sphincter stretching for prolonged constipation and anal fissure was introduced into the practice of medicine by a notorious charlatan. Forcible dilitation of the anal sphincter is incompatible with good common sense, when we have drug treatment that will at all times overcome the difficulty.

The daily use of one, two or three krameria suppositories will, in the course of two or three weeks, heal up the most intractable of fissures. The introduction within the sphincter muscle of 20 grains of the jelly of violets once a day will cause a dissolution of all strictures, all effused lymph, and cause a complete suspension of all reflex irritation.

As for rectal ulcers, which are mostly tubercular, the use of the guaiacal suppositories, one, two, or three per day, never fails to promote perfect cicatrization.

The sphincter can be completely paralyzed, if the seat of spasm from any cause, by the use of the boroglyceride suppositories.

CORNEA.—That portion of the covering of the eyeball next to the conjunctiva is called the cornea, from its fancied resemblance to a horn; transparent and nearly circular, forming the anterior sixth of the globe. It is a structure of extremely low organization; difficult to induce a condition of partial death in it, either by violence, contiguous inflammation, unless the vital forces are very low, shattered in the extreme, or some cachexia, as tubercle, syphilis, gout, etc., be present.

ACUTE CORNEITIS.—May be the result of injuries, cold, wet, exposure in depraved subjects, or inflammation from other parts. When it takes place, it renders the polished and transparent surface of the cornea hazy, dim, and rough, or to look like ground glass.

Symptoms.—Dull, deep-seated pain in the eye; intolerance of light; abundant secretion of tears; no mucopurulent discharge of any moment; a concentric plexus of minute vessels can be seen passing from edge of cornea; a zone of pink vessels in adjacent sclerotic; haziness of cornea, with opacity. Patient affected very tuberculous; disease runs a very chronic course, lasting for months, leaving cornea permanently cloudy.

OPACITY OF THE CORNEA.—Invariably the result of inflammation, and effusion of lymph into the cornea, or between it and the conjunctiva.

When the effused lymph is light and cloudy it is called *nebula;* a limited white patch, such as results from a cicatrix, is called *albugo;* and if it is very dense, of the consistency of ivory, *leukoma.* Absorption may take place under alteratives and tonics, with a local use of brushing on iodide of potass. in solution; or aromatic sulphuric acid, or alum and white of egg emulsion to eye, in nebula and albugo; but they are useless in eukoma.

CORNS, BUNIONS.—The cause in all cases irritation. Soak the feet in warm water and soda for half an hour. Have the following paste made: Half pound potash; four ounces of water; half ounce of extract of belladonna; a little gum arabic and wheat flower, enough to form a paste; apply this to the corn for a few minutes, then remove it, loosen the edges of the corn with a sharp knife, re-apply the paste and in a few minutes the corn can be taken out by the roots. After it is out apply a lotion of sulphate of copper and chloroform. Another method is to rub the corn well down with emery paper every night and touch it with acetic acid.

Another excellent formula for corns is: Salicylic acid, 30 parts; extract cannabis indica, 5 parts; collodion, 240 parts. Mix. This mixture is applied by means of a camel's hair brush. In four days use a foot bath; rub off the collodion. If any portion of the corn remains, apply again and again. The collodion fixes the acid to the part and protects it from friction; the cannabis indica, an anodyne, and the acid reduce and loosen the corn.

With reference to bunions remove the pressure of the boot or shoe by some mechanical contrivance. Then apply corn plaster or tincture iodine and collodion, or salicylate soda plaster. Salicylate soda and siegesbeckie make an excellent application.

CORONA CLANDIS.—The phenomenon of sexual pleasure to some extent in the male, originates in the sensory nerves of the glans penis, thence transmitted to the seat of reflex action and the sexual sense in the brain.

In the delicate, pinkish, semimucous membrane covering the corona glandis there are imbedded thousands of minute

nerves, each of which terminates in a little pea-shaped bulb not larger than the 1-1200 part of an inch in length.

These microscopical nerve-bulbs or ganglia are very highly organized, exquisitely sensitive, and are easily and readily damaged by masturbation, by sexual excesses, abnormal sexual methods, as withdrawal during ejaculation; congress with harlots; sexual incompatibility; all unnatural practices; sedentary occupations, blows, chancres, balanitis, exhausting diseases. All these and many other conditions deaden, blunt, exhaust, change the characteristics of the periphery of these nerves, may irritate them, and this irritation is carried to the testicles, seminal ducts, spinal cord, and brain. Irritation of these nerves renders their sensitive function chaotic—unimpressible.

The best method of treatment to restore these glands to their pristine condition is to bathe the glans penis nightly, dry it off well, then smear it over with pure testicular juice of the bull. Its application to the nerve ganglia completely renovates their character; otherwise the local symptoms, that is, the exhausted, devitalized parts, are best re-invigorated, strengthened, nourished by the administration of c. p. solution of spermin, kephalin, oats, muira pauma, until the emission and penile erections cease. Although apparently local, the internal course of the proper remedies will bring about a perfect recuperation.

Married or middle-aged men, or even those older, in apparent good health, but from unnatural practices in early life have their sexual organs weak, are benefited by the same local treatment. It is the weakened nerve-tendrils or bulbs, which require the aid of a vitalizing tonic like spermin to restore its lost vitality. The remedy in this form is an inestimable boon to men sexually weak or diseased.

An analogous condition is met with in women, who have been either guilty of masturbation or sexual excesses, or suffered sexual incompatibility, or even worse, promiscuous sexual intercourse, and have the nerves of the clitoris blunted, deadened, and have become entirely callous.

CORPULENCY.—The overaccumulation of fat under the integuments and around the viscera constitutes obesity. Although it is essentially a non-vital condition, it is not to be confounded with fatty degeneration.

Causes.—Hereditary tendency, with overfeeding, consumption of large quantities of fluid; indolence, and too much sleep;

excessive use of fatty, farinaceous, vegetable and saccharine foods, malt liquors, no care or anxiety. Fat is formed in the body from food containing it, also from chemical transformation of starch and sugar.

Symptoms.—Besides the increase of weight and bulk, there is an impeded play of various important organs, as lungs, and heart; diminution of bodily and mental activity; disturbance of organs of respiration, circulation and digestion; panting on the slightest exertion; blood is poor in fibrin, deficient in quantity as well as quality; weakness of muscles, countenance bloated and sallow; liability to gouty and neuralgic affections. Obesity not conducive to longevity; sudden death not uncommon. Partial obesity, such as fatty tumors, fat around heart in beer drinkers; fatty omentum or fat belly, in gormandizers.

Treatment.—Bowels to be kept open twice a day; bathing daily in alkaline or acid water; sleep to be restricted to six or seven hours; patient to walk first a mile, then two, or more, daily, until he is lathered over with free perspiration, then stripped in a warm room and rubbed down briskly with aqua ammonia and water, and dry clothes put on. This should be done before breakfast. If circumstances favor, horseback exercise. Diet should consist of meat, white-fish, green vegetables, biscuit or dry toast, tea without sugar. Avoid or prohibit as much as possible bread, butter, milk, sugar, beets, potatoes, beans, peas, and broths, with coffee. Appetite improved if faulty, with bitter tonics, as gentian, quassia.

Our best remedy to get rid of fat is the ozonized phytolacca berry juice.

CORYZA.—Inflammation of the nostrils, irritation, sneezing, catarrh, chills, fever; discharge from nostrils, first watery, then mucous, mucopurulent; pain in forehead; when the frontal sinuses are involved, pain and swelling in cheek; when inflammation extends to antrum it is liable to extend to larynx and bronchia. In young infants the nostrils become blocked up and they are unable to nurse.

Thymol jelly is one of our best local restoratives, inserted up the nostrils, while a warm bath, rest in bed, warm room, a free administration of passiflora incarnata are of great efficacy.

COTTON ROOT.—The inner bark of the green root is an emmenagogue, parturient and abortive; promotes uterine contractions with great efficiency.

Preparations and Doses.—A fluid extract prepared from the inner bark of the green root is the most reliable, in teaspoonful doses every three hours.

COUGH.—A "cough" may be due to any of the following causes:

1. Enlarged tonsils.
2. Inflamed throat.
3. Enlarged uvula tickling the back of the throat by flapping about.
4. Dropsy of the entrance to the windpipe.
5. Bronchitis and inflammation of the lungs.
6. Asthma.
7. Stomach disorders.
8. All febrile disorders.
9. Consumption.
10. Pleurisy.
11. Growth about the air passages.

And several other rarer causes too numerous to mention.

It is therefore obvious that a "cough" cannot be treated without knowing the cause, and we shall endeavor to make plain the different varieties of cough, and how they may be recognized, taking them *seriatim.*

Enlarged tonsils can be seen by telling the person to open the mouth and take a deep breath, or, if necessary, by pressing down the tongue with the handle of a tablespoon, and may further be known by a peculiar throaty voice.

Inflamed Throat.—On examination in a good light, by the method indicated in last paragraph, the throat will be found reddened and swollen.

Elongated Uvula.—By an examination in the same manner, and observing whether it touches the back of the tongue or tonsils.

Dropsy of the Glottis.—By the sudden symptoms of choking and great difficulty in breathing, and almost always occurring in women, especially at the climacteric.

Bronchitis.—By the violent paroxysms of coughing, accompanied after a time by expectoration of thick, yellowish, viscid mucus.

Pneumonia.—By the high state of fever and the short hacking cough, accompanied by the expectoration of *rusty-colored* mucus.

Asthma.—By its "twangy" cough, which is periodical and

severe, great difficulty in breathing, the arms generally being placed on some object to raise the shoulders in order to get a better leverage for the pectoral muscles.

Stomach disorders usually give rise to a cough which is not severe, but which obviously starts in the diaphragm or muscle that divides the chest from the abdomen.

Febrile complaints give rise to a short cough not characteristic.

Consumption is accompanied by a hollow cough, and the expectoration of mucus that looks like pledgets of wool soaked in water, and frequently there is coughed up mucus mixed with bright streaks of blood and air bubbles.

Pleurisy gives occasion to a restrained cough, kept down because of the great pain it causes in the region of the inflammation.

Watch a patient as he enters the room, and several things may be noticed which will aid the diagnosis. If the lips are parted, and there is a curious vacant look about the face, it is a throat cough, probably from enlarged tonsils. If the voice is husky, most likely it is due to inflammation of the pharynx. If the cheeks are hollow, and the person is thin, and has a flush over each cheek, look out for consumption. A big, burly man or woman, with a large chest, and bluish lips, and suffused eyes, generally denotes bronchitis—the bluish, livid appearance particularly. If the hand be held to the side as the person coughs, pleurisy may be suspected, especially if there is an evident desire to repress it.

A person with dropsy of the glottis will not be able to walk to the surgery.

Children do not spit up the mucus; to distinguish throat from chest ailments in them, watch the nostrils and the rapidity of breathing. If you find the former moving rapidly, dilating and shutting, and the breathing quick, it is a chest ailment.

Croupy coughs speak for themselves, and so does whooping-cough when the whoop comes on. In the earlier stages whooping-cough has a simple cough, but croup early develops a "crowing cough."

In the cough of commencing fevers, the other obvious signs are those of heat, thirst, and constipation, and the heightened flush on the cheeks and glistening eyes. A simple cough—that is, a cough due to inflamed throat—is best treated simply by glycerin being swallowed, or syrup of tolu, with a little paregoric, and in adults by sucking ice, or a cold water bandage to the throat externally.

Besides, there is what is denominated *nervous cough.*

Common to some nervous persons, irritation of inhaling dust, or excitement in delicate males and neurasthenic females, also children of feeble organization are often troubled with an irritative cough analogous to that present in bronchial irritation. Most likely due to some reflex cause.

Such remedies as the ozonized tar syrup, aconite, belladonna, matricaria, pulsatilla, musk-root, avena sativa, phosphates, and prunia, as follows: Prunia, four ounces; aromatic sulphuric acid, one dram; sulphate of quinine, thirty-six grains. Mix. Dose, according to age of patient.

Passiflora incarnata, a splendid remedy if of nervous origin; if due to the toxins of microbes, the comp. syrup of tolu is most efficacious.

In pulmonary tuberculosis, much of the cough is due to the rapid growth of the bacillus and its presence in the bronchial tubes. In bronchitis there is a greater or less amount of mucus at all times exuding through the air vesicles and tubes, which keeps up an incessant coughing, and aggravates all bronchial conditions. In both these states, preparations of the pine tree soothe or alleviate the cough. Inhalations of the pine tree distillate from the needles; pine tree syrup is excellent; as for the pine-tree tablets, simply keeping one in the mouth during waking hours is very effective.

In pneumonia, sulphide calcium one grain, every hour until the hepatization breaks up; when this has been accomplished, the same expectorants might be used.

CRAMP.—Cramp is a spasmodic, involuntary, and painful contraction of the muscular fibres. The term is generally applied to the affection of the voluntary muscles, in contradistinction to spasm, applied to that of the involuntary. Any muscles may become affected with cramp, but those of the legs and arms, of the former especially, are most liable to be so, doubtless from the greater liability of the nerves supplying the lower extremities to irritation and pressure, two great exciting causes of the disorder. The cramp may be confined to one or two muscles, such as those of the calves of the legs, or may be more general, as happens in cholera. The affected fibres are drawn in hard knotty contractions, and maintain this condition for a longer or shorter time. The most frequent causes of cramp are the presence of indigestible food in the stomach, or of acid in the bowels, or the pressure exerted on

the nerves by overloaded bowels. A similar acting cause in pregnancy or labor, the weight and pressure of the child, also occasions painful and troublesome cramp. The disorder is often associated with the presence of worms. When cramp affects the arms and fingers, it may be connected with disease of the heart and great blood-vessels of the chest. The power of the application of sudden and prolonged cold in producing cramp is often sadly exemplified in the case of bathers.

The best immediate remedy for cramp is friction with the hand; or, better still, with concentrated ozone and olive oil, and thoroughly evacuate the bowels with kolatina.

CREOLIN.—A product of the dry distillation of coal. It is an oily dark-brown fluid, smelling of tar, but differing from carbolic acid in being easily and completely miscible with water, forming a milky solution which tends to become brown. We have tested its action on several varieties of organisms. A two per thousand mixture of creolin killed the cholera bacillus and the streptococcus of pus and of erysipelas in two minutes, the *bacillus anthracis* in five minutes; but the typhoid bacillus, the *staphylococcus pyogenes,* was not affected in an hour's treatment. A two per cent mixture, however, killed the staphylococcus and tetragenes in about fifteen minutes. Creolin is a more powerful germicide than carbolic acid. A three per cent mixture killed the spores of *bacillus anthracis* in two days, a six per cent in twenty-four hours, whereas a carbolic acid mixture up to eight per cent did not affect the spores in seven days. Many other experiments confirmed the superiority of creolin over carbolic acid. Given in large doses to animals, creolin is not found to be poisonous. It is eliminated by the kidneys, and the urine is not discolored, although tribromphenol may be separated from it by the addition of bromine water and of hydrochloric acid. Creolin has been used therapeutically both for external and internal administration. Externally, we have used a one per cent mixture in a severe case of puerperal joint affection, in ulcers of the leg, in old operation wounds, and also in recent wounds. Good results were obtained in all these cases; the growth of granulations was stimulated, and the excessive discharge was stopped. Ulcers may be treated with a gauze-compress soaked in a one to two per cent solution and bandaged up for about four days. We strongly recommend the employment of creolin in gauze or as an emulsion in surgical practice, in conditions similar to

those indicated above. We have employed it with good results in otitis media. We use an injection of the strength of ten drops to one-half pint of warm water in acute otitis. It relieves the pain, and owing to its innocuousness, it may be used as an injection in leukorrhea. As regards its internal administration, it effects big results in gastric catarrh, in diseases of the stomach and intestines. It was found free from poisonous effect and non-irritant. It may be given in doses of 3 to 15 grains, in gelatin capsules, three times daily, and relieves meteorism and catarrh, and is serviceable in the severe forms of local inflammation of the intestines, such as typhlitis. In simple dilatation of the stomach, in flatulence and in diarrhea, it is of great service. It is of great utility as an injection in cystitis. It is always well to be a little cautious of taking too rose-colored a view of the action and effects of a newly-introduced drug. If all that has been stated about creolin be correct, we have in it a drug of great importance, a powerful antiseptic with no poisonous qualities. Experience will determine the extent of its utility.

CREATININ.—The alkaloid of muscle is found to some extent in all muscles, but the heart muscle of man is most productive of it, besides it is quite abundant in the active muscles of all wild animals and fowls.

The white meat of the quail of North Carolina contains more of this organic substance than the muscle of all animals or fowls.

It is an invaluable remedy in weak heart, or what is termed heart failure; to the amount of three grains every four hours. It is worthy of the confidence of all.

When the tubercular bacillus is either evolved in the blood, or enters the body by contagion and infection, it has a peculiar affinity to live upon the creatinin of the muscles, rather than upon the blood, hence some pathologists have endeavored to show that the wasting, or emaciation, is due to that cause.

It should be administered alone after meals, never combined with any other medicament.

CRETINISM.—This may be regarded as the utmost extent of deterioration that can be brought about in a human being by tuberculæ without death. It may be regarded as an imperfect formation or development of the body, accompanied by a dwarfish stature, malformation of the head, which is flat on top

and spread out laterally; mental imbecility, countenance vacant, devoid of intelligence, physical deformity in various degrees, mouth gaping, tongue protruding, saliva flowing, bronchocele, brutalized habits, squinting, deaf-mutism, blindness.

This disease is common in valleys or gorges in which there is an absence of sunlight, and the inhabitants are necessitated to drink ice and snow water. In addition to those, stagnant air, filthy abodes, the ice or snow water loaded with calcareous matter, with extreme poverty, bad food, sensuality, and other forms of mental and physical degradation. Consanguinity and incompatibility of temperament may also be a cause.

When cretinism is developed it never can be transmitted; an impure sustained breed cannot be produced. Procreation ceases; a cretin never produced a cretin, nor an albino an albino. There is no establishment of a morbid race.

Myxedema, sporadic cretinism, feeble-mindedness, idiocy, nervous diseases, loss of memory, physical deformity, phrenal softening, which have received so much attention by the leading physicians of the present age, point to the conclusion that profound changes in the whole body take place and are associated with either an absence or atrophy of the whole thyroid gland.

Continued, never-failing success attends the exhibition of thyroid extract in the treatment of the above diseases, and of all others in which a failure of the vital forces is present, in all of which a renewal of life is indicated.

Such success attends the use of the remedy that it will doubtless extend the sphere of its usefulness.

The administration of the thyroid extract prevents race deterioration and decay. This is well illustrated in its administration in cases of obesity. Nearly all cases of feeble-mindedness, mexedema, cretinism, idiocy, are characterized by stoutness and hebetude of mind. After taking thyroid extract, they show a marked decrease of weight and intellectual brightening. It is an excellent remedy for obesity, as it acts on the neurotrophic and vasomotor systems, increasing their force, regulating the amount of blood sent to each glandular organ, powerfully affecting the secretion of the bile and pancreatic juice, and thus stimulating the metabolic functions of the body. Increased activity of secretion means less adipose tissue.

The first dose of the ozonized thyroid extract relieves the heaviness, the oppressed breathing, the clouded brain, the slowness of thought and action which are the characteristics of the stout.

Thyroid extract has been thoroughly tested in insanity, and the value of this treatment has been demonstrated to be immense in the mental affections due to myxedema. The value of the thyroid extract in all forms of insanity associated with goitre is most striking.

In mania, the thyroid operates as a rebuilder of vital tissue.

To the raving mania of the masturbator it acts well, but its action must be strengthened by large doses of green root tincture of gelsemium and c. p. solution of spermin.

We see nothing of Alpine cretinism in North America. What we do see is usually the result of alcoholic conception, hence mostly congenital, occurring in infants, and identical with myxedema in adult life. In both the essential feature is either the absence, or perverted, or deficient action of the thyroid gland, which gives rise either to dullness of conception, gaping idiocy, feeble-mindedness. In both the cerebral motor and trophic nervous system are profoundly affected.

In the infantile form, with absent or defective thyroid, there is either an arrest of growth of some special or every tissue of the body, or some abnormal growth.

The thyroid gland secretes some substance which is essential to the healthy and harmonious working of the central and peripheral nervous system. A want of this substance, the nervous mechanism is deprived of a something which regulates the formation of every cerebral and physical element in the body, and the disposition of mucin products, the production of some substance which counteracts the abnormal constituents of the blood.

The thyroid gland, being ductless, points to a secretion of some active principle of life substance, something which implants a vitalizing element, at the same time neutralizes the toxic materials in the blood and system at large.

Defects, mental and physical, are either mostly due to an imperfectly developed thyroid or to a failure in the performance of function.

Thus the secretion of the thyroid gland or its administration, especially of the lamb, has a powerful effect on the mental and physical system; and its administration promotes growth, overcomes feeble-mindedness, cures idiocy and two-thirds of all cases of mental aberration.

Don't overlook the ozonized extract of the lamb's thyroid when the patient needs to be braced up and desires either his hair or his memory to grow—don't fail to give it on the slightest indications of imbecility or arrest of development.

If there be one in your neighborhood, you will know him by the following characteristics: Stunted growth, large broad head, with scarcely any brow; thick features, widely staring eyes, flat nose, large gaping mouth, narrow chest, pot belly, crooked legs, coarse wrinkled skin, deficient mental capacity, approaching idiocy. If he is under twenty-one years of age, he can be cured by the administration of the ozonized thyroid extract.

If there be a case of defective development, approximating either idiocy or insanity, the same remedy will aid us to get rid of useless idiots and helping the insane. Defective development suggests some force which has influenced the thing we call life; heredity, intermarriage, alcoholic conception being the chief causes.

A liberal use of the ozonized thyroid extract will speedily do away with all institutions for deaf-mutes and feeble-mindedness.

CREOSOTA.—Beechwood creosote, a bactericide of great efficacy, has a special affinity for the tubercular bacillus. The best form for administration is: Creosote, twenty grains; alcohol and syrup, of each six drams; water, three ounces. Mix. Dose, one teaspoonful thrice daily.

The ozonized mistura creosote is an admirable form for internal administration. The distillate of creosote is termed guaiacol, which has prodigious powers in annihilating the tubercular bacillus. Used by inhalation, orally in the ozonized mistura guaiacol; by suppository, and added to olive oil by inunction into the skin; in an ointment, wonderfully efficacious in enlargement of the testicle.

CROTON CHLORAL HYDRATE.—Dose: Five grains in syrup every half hour, or a three-grain pill as frequent. Indicated as an anesthetic for deep sleep and relief of pain. Croton chloral contains more hydrogen than chloral hydrate. It is, in fact, butyl chloral. Its practical value is the property of diminishing sensibility before producing narcosis.

CRIME.—The reabsorption of the testicular secretion makes the man and the ovarian secretion the woman, that the failure of either predisposes to insanity. A perversion of this secretion brought about by irritation, originates morbid impulses in the pelvic nerves, producing a reflected neurosis, with incoherence and instability of all acts. Abnormal ovulation,

erotic impulses, lowers the psychical and physical inhibitory control of the entire nervous system, increases the susceptibility to irritation, weakened will control, which permits distorted mental visions, erratic moral acts. A woman at the climacteric period is helpless to evade or subdue her mental equilibrium to profound disturbance, as melancholia, dementia, insanity, if not depression of spirits, hallucination.

Prevention being better than cure, it becomes the duty of every family physician, when his female patients reach the age of forty, to inculcate a prophylactic treatment, and select and place her upon the best, most efficient remedies in the materia medica to tide her over that crisis which is impending.

Wine of aletris farinosa, which is not only a restorative, but a bracing tonic to the entire reproductive system, and a remedy that can be administered in every case with great advantage, never failing to afford relief and benefit, whenever the uterus undergoes organic change. Another very valuable remedy, of universal efficiency at this period, is the c. p. solution of spermin, a brain builder of immense power; add to this the ozonized tinct. of matricaria, and we have the three best remedies, which administered at that peculiar period of life will prevent that dreaded disease which every modern woman fears —cancer.

CROUP.—An irritation, inflammation of the mucous membrane of the larynx and the effusion of plastic lymph in which a pathogenic microbe appears—an affection very common and fatal among young children of a sanguine temperament, plethoric habit, short necks, with plump embodiment.

The microbic evolution is blended with a plastic state of the blood, and is usually ushered in as the electric forces become lowered toward the afternoon and evening by symptoms of catarrh, hoarseness, clanging cough, sore throat, slight febrile exacerbation.

About midnight, when the electrical forces are at their lowest, the child awakes with a husky cough, great difficulty of breathing an impending sense of suffocation, face either flushed or dusky or livid, with a high temperature—becomes gradually and rapidly worse and dies from asphyxia.

This may occur the first night, generally two or three nights, growing worse every succeeding day, or the vital forces of the child may rally, an improvement taking place towards morning, but the attack is likely to recur towards evening. The recur-

rent attacks, each growing worse, become fatal, or they grow less and less, till recovery ensues. Shreds of false membrane, heavily loaded with cocci, are often expelled from the throat during an attack.

Treatment.—This should be prompt, energetic—a hot mustard bath admits of no delay—smear the neck with warm salad oil, then apply concentrated ozone, and over that hot sponges or poultices. If breathing be impeded, administer small but oft repeated doses of the ozonized comp. syrup of blood root and lobelia; if not speedy relief, larger doses; carry it to emesis at once; rest in bed; warm room, 75 degrees F., with formalin exposed so as to vaporize.

To completely annihilate the micrococci of croup, administer iodide of calcium: Iodide of lime, ten grains; distilled water, four ounces. Mix half a teaspoonful every half hour; or triturate a dram of iodide of lime in one ounce of sugar of milk, administer in suitable doses. It not only cures, but eradicates every germ, and prevents their re-evolution in the blood. Its use will not disappoint even the most unbelieving. The comp. syrup of blood root and lobelia should never be overlooked.

The diet should be light and nutritious.

CUTANEOUS MEDICATION (*Jellies and Ointments*).—In the present era of new methods of treatment and new remedies, none have met with such approval as the excellent procedure of aborting inflammatory action by means of powerful germicides of an anesthetic character; of instantaneously breaking all breaches of continuity and promptly curing all cutaneous diseases by means of medicated jellies. These have been extensively used by progressive physicians for the past twenty years, and their utility has exceeded the anticipations of the most sanguine.

Ozonized Jelly of Violets is a local anesthetic, powerful bactericide, which presents strong and special claims for recognition—non-toxic, producing local insensibility wherever applied.

For aborting various inflammations there is no remedy to be compared with it. In the various forms of ophthalmia, simply everting the lid and inserting one grain of the jelly twice or thrice daily completely wipes out inflamamtory action in a short space of time.

In tonsillitis, acute, paint it over all the painful and congested parts, inflammatory action ceases.

In acute and chronic nasal catarrh; in neurosis of the olfactory nerve, due to the inhalation of pollen, aromas, such as is present in hay fever, or asthma, epidemic influenza and kindred conditions, painting the interior of the nostril with it thrice daily completely eradicates the pathological conditions.

In all cutaneous inflammations, such as erysipelas and burns, simply paint or spread on lint the jelly and apply on the inflamed or denuded surface, when all redness, congestion, pain subsides at once.

In cancerous and syphilitic ulceration of the tongue and larynx, thickening, infiltrations, large excavations, patient only able to take liquid food, apply the jelly of violets every three hours, the excruciating suffering is promptly relieved.

In gastric ulceration, cancerous infiltration, enteritis, one grain in a capsule every three hours will do big work in maintaining a local anesthetic effect upon the nerve ending. It may in those doses be given with impunity on account of its non-toxicity.

Very celebrated cancer specialists employ the jelly of violets in the cure of cancer of the tongue or stomach, intestines and rectum, combining it with papoid in all cases, which is a powerful digestive and absorbent. Guard it exceedingly well, as it is a powerful anesthetic, operates well in all cancers, subdues reflex irritability, pain of coughing and swallowing, especially if the tongue, soft palate, larynx, be affected with epithelioma. If necessary the jelly can be dissolved in water and used as a spray in laryngeal cancer, infra-nasal ulcer, malignant tubercular ulceration. All pain, tenderness disappear, and a rapid diminution of all odors in the discharge.

It excels all other dressings in phagedenic ulcers and venereal sores.

The Ozonized Resorcin Jelly, a peculiar cutaneous germicide, which next to the jelly of violets occupies the foremost place in the armamentarium of the dermatologist. It is not exactly a new remedy, but by clinical observation and experience new fields have been opened up for its use. It has a most extensive sphere of usefulness, valuable results always attend its internal as well as its local application. It has the peculiar property when applied of exciting an exudative form of inflammation, thereby removing infiltrations, hypertrophies, causes abnormal or adventitious tissue to peel off.

Its indications are numerous and its action effective in psoriasis, for acne rosacea, and even in epitheliomatous patches.

Ozonized Jelly Chlorate of Carbon is principally used as a tooth, gum and tongue preparation, being powerfully antiseptic; it kills the oidium albicans, the leptothrix buccalis, and tooth, gum and tongue preparation, being powerfully antiseptic; it kills the oidium albicans, the leptothrix bucalis, and all the bacteria common in the oral cavity. The method of application is simply to dip the dry brush in the jelly and apply to the desired part, or the jelly can be dissolved in water in sufficient quantity to suit.

Its chief value is its germicide properties, its vitalizing influence on the teeth and gums.

It is a decidedly efficient prophylactic against all diseases of the mouth and throat, such a preparation that should be in very general use, as the early decay of the teeth is very general in all whose vitality is exhausted by overtaxing the nervous system.

Jelly of Ichthyol is useful in pityriasis, ichthyosis, eczema, erysipelas, boils, as well as all vegetable and parasite skin affections, extremely effective in the different forms of tinea.

Clinical observation teaches it to be very efficacious in localized rheumatic pains, both in muscles and joints. Smeared liberally over old muslin and applied. Many physicians use this jelly in burns and in gastric catarrh.

Thymol Jelly, used with most benefit in genital eczema, pruritus, as a general antiparasite, it embodies even in weak dilutions strong bactericide properties, but is cooling, soothing, healing, absolutely non-irritating. It can be applied freely, as there is no toxicity, and it affords rapid relief of all pain.

Jelly of Chrysarobin is of especial value in leprosy, psoriasis, rupia. Before applying this jelly, smear the parts well with ozone ointment, over which apply the jelly.

Jelly Periodate Aurum, valuable in syphilis, applied freely, so as to saturate the system. In this way it is utilized in initial sclerosis, good and very effective in condylomata of rectum, scrotum, vulva. When applied, they disappear rapidly. Its application affords prompt relief in gouty and rheumatic pains.

Indicated in all syphilitic cutaneous affections, abscesses, carbuncles, indurations.

Jelly of Boroglyceride is an excellent, efficacious germicidal application. Used in cases of superficial injuries, burns, fever sores on lips, nose, angle of the mouth during the winter months. It completely annihilates the oidium albicans on mouth and nipple. Excellent application to old ulcers with indurated edges. One of the best applications in erysipelas.

Jelly of Salicylic Acid is used for thickening of the skin, callosities, corns, keratoid eczema. Has a most decided action in lupus, ichthyosis, acne, sycosis, lichen, in rheumatic synovitis. All grades of strength of which the skin of the patient is tolerant are prescribed, with a decided effect.

Jelly of Acetate of Aluminum has met with great success in burns and superficial inflammation of the skin; also in badly healing ulcers, lupus and malignant excrescences.

Jelly of Carbolic Acid has been utilized as a local application to lumbar portion of the back in initial sclerosis.

Jelly of Formalin, useful in infected wounds, indolent ulcers, chancres, lupus, eczema, boils, erysipelas, careinomatous excrescences, bites of rabid animals.

Ointments.—Quite a number of new ointments have been introduced, all having their base in petrolina jelly or vaselin. Some of these possess rare value and are entered in the pharmacopœia.

Ozone Ointment is a powerful bactericide.

Indicated: In all skin diseases, as in erythema, eczema, lichen, psoriasis, prurigo, pityriasis, impetigo, all forms of tinea, blotches, pimples, burns, frost-bite, erysipelas, excoriation, ulcers, varicose veins, itch, scurvy, piles, as a dressing to all wounds or sores.

Its energetic germicidal properties render it the finest, most penetrating emollient, healing product virtue, as no microbe can live under where it is applied. Hence it is valuable locally in phthisis, pneumonia, metria, balanitis, chancre.

Chrysophanic Acid Ointment in variable strengths, ten, twenty and thirty per cent is of great therapeutic value in psoriasis, lepra, and cutaneous leprosy.

Applied in its high potency, it causes a complete exfoliation of the malignant cutaneous affection, leaving a healthy tissue, and if the proper constitutional remedies are administered, seldom reappears again. A strength that will cause desquamation is desirable in all cases.

Gaultheria Ointment.—This ointment has a most remarkable affinity for the bacillus amylobacta, the pathogenic microbe of rheumatism. By endosmosis it passes into joints; over the pericardium of the heart it has an active sterilizing effect, as is visible from the prompt relief of pain. Besides killing off the bacillus, it neutralizes its toxins.

As an agent to be employed in partially ankylosed joints due to gout and rheumatism, it has no equal. Best applied by gentle massage.

Guaiacol Ointment.—A much more active agent than the pine-tree ointment, being capable of completely annihilating the tubercle bacillus. In endosmosis it has remarkable powers of penetration; in the same potency as the pine, it will double it in real practical utility as a bactericide. It is also exceedingly valuable in cases in which the gonococcus has migrated to the testes and produced orchitis, with considerable pain and enlargement. Bathing the scrotum with water as hot as can be tolerated, drying off, then applying guaiacol ointment every three hours, speedily brings about resolution.

Guaiacol ointment or jelly is inimical to the microbe of erysipelas; its microbicide properties are great in destroying every vestige of the germ.

Mexican Ointment.—The climate of Mexico is most relaxing, hence hernia is very common among both old and young of both sexes. Some twenty years ago a celebrated surgeon in the city of Mexico introduced this ointment as an application over all hernial openings so as to induce contraction, and at the same time excite adhesive inflammation, with effusion of plastic lymph and obliteration or filling up of the hernial aperture. The method adopted in its application is to return the hernia, bathe over it, dry well, then apply the ointment over and above all the truss, pad or compress. The application is unattended with danger, and is more successful and rational than the injecting of irritants into the hernial aperture. In order to effect a radical cure, keep on with its application for a few weeks, until abundance of plastic lymph has been effused.

Siegesbeckie Ointment.—Being a powerful germicide, has great healing properties in gangrenous ulcers. It is of utility in all vegetable parasite skin diseases. It contains an alkaloidal substance called darutyne, which is an active bactericide.

Resorcin Ointment.—A valuable local application to all cancerous cavities and ulcers. It operates well also in syphilitic sores.

Resorcin ointment is the best known of all germicide cerates, and can be successfully prescribed in acne, eczema, pruritus, in all acute and chronic skin diseases; one of the best and most reliable of all cutaneous applications.

Saw Palmetto Ointment.—This is prepared from the oleoresin of the ripe, undried berries, and possesses all the medicinal properties in a very marked degree of this very celebrated agent. As a vitalizer, a promoter of nutritive growth and development of the organs of generation in both sexes, there

is no remedy which can be compared with it. It is easy of application; simply bathe the breast or scrotum, dry well, apply the ointment with gentle massage or friction for fifteen minutes, morning and night. During the day and night a thin coating of the ointment should be kept in close approximation without pressure.

Storax Ointment.—This is prepared from the best Persian storax, and makes one of the most valuable of all microbicide ointments. It unquestionably forms one of the most valuable dressings for cancerous cavities after removal. An elegant application to syphilitic sores.

Pine-Tree Ointment.—The oil of the needles of the North Carolina pine incorporated into ozone ointment, potency ten, twenty and thirty per cent. This ointment, containing all the ozonizing aroma of the pine, when applied over a tubercular solidified lung, over tubercular damaged joints, inhibits, sterilizes, and is actively inimical to the vitality and growth of the tubercle bacillus underneath. We do not claim that it will annihilate the bacillus; it is a scavenger, and puts the germ in a quiescent state; valuable as an auxiliary agent.

MICROBES IN THE SKIN.—In all deviations from a healthy standard in and on the cutaneous surface, we have either animal or vegetable germs present in the degraded living matter.

All applications, whatever they may be, should be germicidal and anodyne.

At the head of all oleaginous preparations stand storax and resorcin ointments.

Storax Ointment has acquired a well-earned reputation in the healing of open cancerous sores.

It is an excellent dressing for any irritable condition of the skin, such as chapped hands, face, chilblains, excoriated nipples aphthæ), destroys every microbe present in from twelve to twenty-four hours. When about to apply it on a raw or cracked surface, first wash it well with hot water and soap, thoroughly dry it, and then spread it on lint and apply.

Resorcin Ointment.—This elegant pharmaceutical preparation is a chemical combination of resorcin and ozone ointment, forms an unalterable and absolutely non-irritating salve, which has proved itself of remarkable efficacy in eczema, relieving the intolerable itching the moment it is applied. Its action is rapid in all chronic intractable, inflammatory skin affections; for the moment it is applied it disipates the capillary hyperemia, relieving the local congestion.

In the proportion of one ounce of resorcin to ten of ozone ointment it is soothing, healing in all inflamed eruptions.

Its germicidal action is powerful, prompt in killing all germs in the eczematous patches or upon cracked, fissured excoriations, denuded or abraded surfaces; it even alleviates the intense burning of erysipelas. For itching and inflamed piles it is one of the best remedies known. Spread on lint and applied, it stops the nightly itching of pruritus. It is an ointment which is unaffected by age.

Chrysophanic Acid Ointment has met with much success in eczema of the face. After a removal of the crusts, it is applied in the strength of five grains of the acid to one ounce of ozone ointment.

Always used with the most gratifying results.

Boroglyceride Ointment, made by incorporating boroglyceride in ozone ointment. It has a strong microbicidal action, and has now superseded all other remedies in burns, as it at once relieves pain, the shock is lessened, and one of its initial dangers avoided. It possesses merit in soothing the irritated periphery of sensient nerves.

American practitioners seem to be more partial to medicated jellies than to ointment in cutaneous affections; their lubricant properties; their ready miscibility with water; their protective influence in guarding against infection; their rapid absorption gives them a distinct influence; their powers of penetration are immense.

The principal jellies in use are the thymol, menthol, resorcin, ichthyol, boroglyceride.

In order to illustrate the power of penetration of those jellies, apply itchthyol in mumps, and witness the disappearance of the pain, the subsidence of the swelling, the abrogation of fever the moment it is applied; the remedy by endosmosis enters the body of the gland, annihilating all microbes in its interstitial structure. There are no complications, no metastasis, but rapid absorption of effused lymph takes place.

Applied warm over the lungs when they are riddled with the bacillus of tubercle, and the expectoration loaded with the germ, its penetrating power is most manifest in a great amelioration of every symptom and a disappearance of the bacillus from the sputum.

Another excellent illustration of their absorbent action is seen in the application of resorcin jelly in cancer before any breach of continuity has been effected. Daily applied, it suffers

a retrograde process, grows less and less, until pain finally ceases, and if persevered with, disappears. Their germicidal power is best witnessed in diphtheria, painting freely the tonsils, uvula, fauces with menthol jelly every two hours. No false membrane can form; if effused it will kill it.

The action of thymol jelly is beyond all powers of description; applied to the mouth and throat, fetor, sordes, disappear. Applied over the entire abdomen fever ceases, cicatrization of the bowel glands is rapid.

It is a good plan, whatever local remedies are used, no matter what the character of the eruption may be, always administer from two to six sulphur lozenges a day. They not only regulate the liver, increase peristalsis, kill all intestinal germs, and are of the greatest value in arresting the activity of all putrefactive changes in the contents of the bowels. A numerous group of dermatoses appear and disappear in direct relation with the decomposition of the chyme. The use of these lozenges have a very salutary action in preventing this, but invariably ameliorate the cutaneous affection.

CYCLISTS' DISEASES.—There are a number of ills—new diseases—incidental to the use of new appliances, which have become recognized in medical practice; the victims have given them names, which have been adopted in scientific phraseology.

The Bicycle Back is common and familiar to all—the doubled-up position, which assumes a relationship to miners' back—a stooped position for many hours at a time, producing a special form of spinal curvature, which is universally attracting the attention of philanthropists.

This form of anterior curvature gives compression of vital organs, as the lungs, heart, liver, etc., and shortens greatly the mean duration of life.

The Effects of the Bicycle.—Every man who rides a bicycle has either irritation, congestion, inflammation or enlargement of the prostate gland, due to pressure.

The prostate is essentially a sexual gland. From its complete development at puberty it has no rest. At all times and occasions it is liable to lesion. Masturbation blights it. Abnormal methods of coitus derange it. Gonorrhea demoralizes it. Cyclism is its death.

The prostate is also acted upon by urination; participates in each erection; suffers a partial death by every conceivable

means of irritation; once it suffers organic change, the morbid condition is reflected to the spinal cord and brain at the sexual centre, so there are both peripheral and central changes stamped upon the tissues. Brain and prostate reciprocate each other's morbid condition; a damaged prostate is synonymous with brain irritability, idiosyncrasies, suicidal tendencies.

Whenever the prostate is damaged the act of micturition is deranged; it may at first be simply increased in frequency, but by and by it becomes lame, hesitating, and if excessive, portions or shreds of prostatic epithelium from the inflamed prostate urethra are abundant in the urine.

Sexual activity becomes a very great aggravation.

Besides the difficulty in the act of micturition, there is usually pain in the groin, aching in the testes, sharp-shooting sensations in the limbs, leakages of prostatic and seminal products, greater disturbance of the mental poise.

This partial death of the prostate involves nearly the entire urethra; its severity depends upon the amount of exercise taken. It differs from all other forms of irritation, being the direct result of pressure, shocks, jars, concussions. It differs from the enlarged prostate, the effect of withdrawal during coitus, from the swollen prostate of the masturbator from that acquired from connection with harlots, or gonorrhœa; from that incidental to marriage excesses or dalliance.

The effects of prostatic enlargement from the use of the bicycle are deeper seated, more extensive, give rise to more rapid organic change, which begins in its glandular structure and extends to the stroma, all due to contusion and concussion from the see-saw movement.

The diagnosis is easy; a distinct increase of size of the prostate can readily be detected by the finger in the rectum; the tenderness is best appreciated by the introduction of a metallic bougie into the prostate urethra.

The reflex effects are variable, from mere indigestion to profound mental chaos.

The disease is very common, as every rider is affected from puberty to old age. It is a national calamity, as it induces spermatic crystals in the spermatozoa—in other words, it renders the semen infertile.

Such cases admit of cure, provided the patient can be induced to follow well-defined rules. These embrace removal of the cause, rest, and a course of medication calculated to promote a renewal of life in the prostate, the use of iodol bougie every

other day inserted well up into the prostate urethra, permitted to dissolve, and excite its peculiar absorbent action, has an admirable effect. Washing out the rectum, morning and night, with a tepid solution of boroglyceride, and permitting it to escape, following the morning washout with a saw palmetto suppository; in the evening following the same with first a boroglyceride suppository, and later on with an ichthyol. Such a course of treatment has a decided effect in exciting anesthesia with absorption, and in obliterating all traces of enlargement.

While this direct local treatment is being carried on, internal medication should not be neglected. Protonuclein is of the greatest possible utility. One three-grain tablet, thrice daily, answers well. At the same time, matricaria before meals is one of the best of tonics, bracing to every tissue of the body.

After a case has progressed along for six weeks, we have found the fluid extract of celery comp. of rare value in soothing the nerves of the pelvic viscera, checks metamorphosis in uric acid, vitalizes and astringes the kidneys, prevents albuminuria.

The ozonized fluid extract of celery comp. is a therapeutic agent of real merit, and is prophylactic to all morbid changes in the reproductive organs.

CYCLISTS' SORE THROAT.—After a spin on a more or less dusty road, the cyclist often experiences a dry, and subsequently an inflamed condition of the throat, with headache, languor, debility, and a sense of nausea, general indisposition, and other symptoms resembling the inhalation of a poison of some kind. In the bacteriology of the streets and roads, traversed by those health-seekers, we find in the dust hundreds of millions of bacteria, according to the nature of the locality, and many pathogenic oganisms. The most common are the microbes of pus, malignant edema, tetanus, tubercle, syphilis.

The mischief to all riders, as well as pedestrians, might be prevented, provided they kept their mouths shut and breathed through the nostrils.

Confine respiration to the nasal passages, keep the mouth firmly shut, the microbes in the air would never reach the pharynx or bronchial surfaces.

After a dusty run, douche the nasal cavity with a tepid solution of boroglyceride. If the throat is sore, paint it with the jelly of violets, using gargles of chloride of carbon.

CYCLISTS' HEART.—In bicycling, the heart is severely taxed, irritated so that it contracts at the rate of 120 beats per minute.

The organ cannot stand that without overstrain, and such a strain gives rise to dilatation of the ventricles and chronic heart disease. The commonest is palpitation and temporary dilatation; but even this is sometimes very difficult to cure. That temporary dilatation occurs is enough to show the great strain put upon the heart, and it is an added danger that the sense of fatigue in the limbs is so slight. The rider is thus robbed of the warning to which he is accustomed to attend, and repeats or continues the strain upon the heart. As in other similar cases, the effect is to render that dilatation permanent which was at first but temporary, and to cause an increase in the muscle of the heart by repeated exertion. The heart produced is of large dimensions and of thick walls—a condition which may, perhaps, give little uneasiness to its owner, but which a medical man will view with considerable distrust and apprehension.

CYCLISTS' LUNG.—Chiefly due to compression, great, rapid inspiration resulting in emphysema.

THE BICYCLE AS A FACTOR IN SEXUAL DEBILITY.—All medical authorities are agreed that the use of the bicycle gives rise to chronic inflammation of the prostate, and induces infiltration, induration, and fibrous deposits, and a general chaotic condition of the reproductive glands; that it gives rise to induration of the testes, sarocele, varicocele, hydrocele, spermatocele, and numerous other abnormal conditions, all leading to impotency or loss of sexual power.

The effects of this mode of locomotion are very varied, and depends much on the constitutional powers of the individual, but speaking generally, all have spermatorrhea, all have semen oozing away, without erection or contact with the opposite sex.

The practice of cycling invariably induces leakages, which so weaken and deteriorate the seminal fluid that it becomes watery and infertile.

The daily pressure upon the ejaculatory ducts in the prostate gives rise to weakness, relaxation, and renders the ducts loose, patulous, unable to hold their contents, and the semen dribbles away. A species of paralysis is also promoted whereby the ejaculatory ducts are unable to perform their proper function.

Another condition among this class of individuals is, they may appear well, may have strong and vigorous erections, but during the act of coitus no evacuation of semen takes place, owing to a spasmodic contraction sufficient to close or oppose the ejaculatory forces, and thus prevent the flow of semen dur-

ing the act of copulation. In old cyclists the secretion of the seminal fluid is either hindered or sexual intercourse may be difficult or painful; or there may be spermatocele, the testicle distended with semen, an overaccumulation, and other portions of the testicles suffer through this retention, and is invariably followed by impotency.

The physical and mental effects of cyclism are analogous to masturbation and spermatorrhea; every symptom is identical; the *same* weak, relaxed and shattered condition in both; the *same* leakages or oozing; the *same* involuntary losses in urine or at stool; the *same* wasting and degenerative changes in the organs; the *same* nervousness and general unbalanced state.

In both the *same* dilated pupil, wild stare, unsteady gait, weak back, shaky knees; in both the *same* physical and mental debility; the *same* impaired vision, with dull headache and lost memory. Buoyancy of spirits is gone; mind depressed; the snap, the vim, the force, the vigor has departed; the great motor power is paralyzed—both become impotent.

Other factors in the production of impotency, aside from masturbation and cyclism, are to be found in injuries and blood diseases. These causes of sexual debility are often overlooked, and are to be traced to the ptomains of disease germs, more especially to those of syphilis, tubercle, and gonorrhea. They induce neuralgia and a blight or withering of the reproductive glands.

The entire sexual and urinary apparatus derive their nerve supply from the general reservoir, the great sympathetic, on which depend all vital functions. A lowered vitality gives rise to a sexual debility, imperfect erections and premature emissions. Masturbators and cyclists, and those who resort to venereal excesses, are the greatest sufferers.

Associated, or caused by this debility, is varicocele, which plays a most important part in the blight.

Cases of partial or complete impotency, due to the use of the bicycle, require a special treatment of their own. The practice must be discontinued, a general alterative and tonic course inculcated; baths, massage, electricity; a diet of the best, with a well-regulated condition of the bowels.

Then a special treatment for at least three months or more should be adopted to repair the damaged prostate, and absorb the effused products which give rise to the enlargement. The experience of the best specialists in Europe and America em-

phatically declare that the best method is to produce perfect anesthesia of the gland by administering persistently the ozonized extract of black willow bark and tincture of the green root of gelsemium; salix nigra suppositories and bougies; alternate those with the ozonized extract of saw palmetto.

Such a course, managed with tact and skill, will give the desired anesthetic action upon the entire reproductive glands. The enlarged prostate will wilt, recede or diminish in size; emissions, leakage, semen at stool and in urine will cease; patient will begin to gain flesh and strength; various auxiliary aids to absorption may be worked in, as the aristol and saw palmetto suppository, with daily enemata of a solution of boroglyceride to one pint of which one or two drops of ichthyol is added.

Nearly all this class of patients are under thirty-five years of age; the fibrous deposit in the gland is not so firmly consolidated in an older class of patients, hence absorption is more rapid—a renewal of life is more easily effected.

Just as soon as the gland is reduced to its original size, a rebuilding or reconstructive plan of treatment should be inaugurated. In this the ozonized saw palmetto extract must still be persevered with; two doses per week of the thyroid extract should be given to aid the evolution of the organic cell. C. p. solution of spermin and glycerite of kephalin should now be commenced, and these remedies held on to until recovery is complete.

Any failure in the erectile power can be rectified by the use of the muira puama, which is one of the best remedies in these cases.

All Cyclists Wreck their Sexual Organs.—All have a weeping penis; leakings, visible or invisible; it is thin, consisting first of a mucus, a mere moisture—later it becomes mucopurulent, and mixed with spermatozoa; the prostate suffers, a catarrhal exudation follows; the testes are damaged; either atrophy or hypertrophy takes place; their secreting faculty is destroyed; he becomes sterile, impotent, a nonentity; later on still, his brain, being deprived of the vitalizing action of the testicular secretion, becomes soft, its typical fissures of thought shallow; hence memory is poor, vision, hearing impaired; his expression is simple, idiotic.

A Bicycle Malady.—When a bicyclist has a frequent, dull, aching, dragging or throbbing pain in the perineum, aggravated by standing, walking, jolting, and is relieved by hard

pressure, or the recumbent position; when he has a pain in micturition, burning, smarting, twisting of the stream; when he has an oozing of a thin, glairy fluid which glues the lips of the urethra, with aching or soreness of both testicles; when he has a pain or ache in the loins, vertigo, spells of exhaustion, pervading nervousness, seminal losses more or less constant, the wear and tear of which breaks him up—some by much irritability of the bladder, which may travel along the seminal ducts to the testes; or it may extend to the ureters, settle in the prostate, and he has a disease which once exterminated a nation.

The cause for producing such symptoms must be removed, a general tonic and alterative course prescribed, matricaria and saxifraga; then direct treatment to the prostate by first cleansing the rectum, then introducing first a boroglyceride, and one hour later on an ichthyol suppository. In bad cases to be repeated as indicated for prompt relief.

In such cases, when acute symptoms are present, administer c. p. solution of spermin for a tonic, and kephalin granules to restore the integrity of the damaged prostate.

CYCLISTS' PTOMAINS.—There is danger in all athletic exercise by poisons produced by the forced combination of his tissues. Every cyclist's system is at all times, when exercising, poisoned by ptomains engendered by his continuous exertion. The blood of any man who runs a long distance is found to be full of these poisons, and every race he runs he adds a fresh dose of poison to his system; he renders himself liable to many other maladies, and if he runs his exercise into perspiration, it must ever be borne in mind that human sweat is toxical, especially that resulting from muscular exertion—nay, even fatigue causes a poisoned condition of the blood.

WOMEN CYCLISTS suffer precisely as men. To them it is immoral in its tendencies, injurious to their mental and physical welfare, destroys the graceful contour of their form. The unrestricted license is objectionable on moral grounds. To a woman, the bicycle, like roller-skating, is simply a masturbating machine; it produces a chaotic state of her entire sexual system, gives rise to kidney and rectal trouble, and even deformity of the bones.

CYANOSIS, BLUE DISEASE, BACILLUS INDICAN.—The microbe indican appears in the blood in newly-born infants in malformation of the heart; depending on imperfect closure of the foramen ovale; a communication between ven-

tricles; also, often due to imperfect expansion of lung air-cells; blueness almost amounting to blackness; coldness, faintness, intermitting pulse.

It is also present in all diseases in which there is imperfect aeration of the blood, as pneumonia, tuberculosis, bronchitis, asphyxia, carbonic acid and sewer gas poisoning. Preparations of ammonia, as the chloride alternated with creatin; small doses of strophanthus; passiflora, peroxide of hydrogen, adonin; spartein, digitalis, pure air, very nourishing food, sea bathing, avoidance of fatigue and mental excitement.

CYSTIC DISEASE.—Cysts, or closed sacs resembling hydatid cysts, are often developed in the substance of organs or beneath the internal mucous lining or under external serous covering. They are found in the mouth, bladder, but are specially common in the uterine walls, which are often invaded with cysts, or small bladders, while another part is infiltrated with fibrous tissue, or the ordinary fibroid tumor. These cysts give rise to trouble and inconvenience when they attain any size, such as leukorrhea and hemorrhage. If within reach, they may be punctured. They, like the others, are unaccompanied with pain; not infrequently give rise to uneasiness. The best treatment is a general alterative and tonic course.

In order to avoid those three common forms of uterine disease, there should be a rigid avoidance of irritation of the uterus, either by tight lacing, wearing sponges or pessaries, masturbation, abortions, irritating caustics of doctors, especially nitrate of silver; even certain occupations, as the sewing-machine, should be guarded against, or other forms that aid in the production of congestion.

DAMIANA.—The leaves and stem of the *Turnera microphilla,* which is indigenous to Mexico.

Therapeutical Uses.—An invaluable and most efficacious aphrodisiac, well worthy of use in all forms of impotency, sexual lethargy; also of utility as a tonic in nervous diseases.

Preparation and Dose.—Ozonized extract from 10 to 30 drops every three hours.

There is a compound damiana pill, which is composed of the solid extract and muira puama, an instantaneous sexual invigorator. A suppository made from the damiana leaves is much esteemed as a sexual excitant in profound impotency.

As the prostatic urethra has most remarkable absorbent

properties, the glucoside of the damiana has been made into a urethral bougie, and also used with great success. One of them inserted right up, or rather into the prostatic portion, and held there half an hour till it completely dissolves.

DEAFNESS may be due to the same cause as blindness: anemia, congestion, poisons, reflex irritation, phrenal degeneration, and may often be rectified or cured by the same course of treatment. To the inflammatory form may be traced swelling of the mucous membrane, causing an obstruction of the outer ear and Eustachian tube, sore throat, morbid growths in the pharynx—inflammatory action may be so violent that it may cause an ulceration or rupture of the *membrana tympanum*. In nasal catarrh, if not cured, its germs may migrate either downwards to the bronchi, or up the Eustachian tube.

Under the class of poisons, the toxins of all disease germs, as fevers, syphilis, are the most common cause; under drugs, probably the administration of large doses of quinine, salicylate soda, affects the auditory nerve most disastrously. Long exposure to sudden undulations of waves of sound exhausts the auditory nerve, membrana tympanum, such as occurs in boilermakers, artillery firing, and in the streets of cities. Diseases of the brain, or auditory nerve, usually associated with deafness. The treatment of deafness, in all cases, must vary according to the cause; if that is not visible, alteratives and tonics.

In all aural affections it is safe, salutary practice, to fill the ear, head laying flat on the unaffected side, with peroxide of hydrogen; retain this for five minutes; empty and refill, subsequently dropping two to five drops of ozonized mullein oil in the ear. This might be repeated morning and night.

Mullein oil administered in this way will cure otalgia, otorrhea and many diseases incidental to this organ.

The practice of slapping children on the side of the head is highly reprehensible, very productive of ear disorders; so are exposures to wet or cold; the toxins of the eruptive fevers have all a disorganizing action on the auditory apparatus.

Perforation of the membrana tympanum, either by ulceration or mechanical violence, gives rise to an irreparable form of deafness, which, in some cases, is overcome by wearing an artificial ear-drum.

There is little doubt that the turmoil and din of all large cities are productive of deafness; the general subsidence of all noises is one of the desiderata of the age.

In childhood there is probably no disease of the ear so common as otorrhea, a mucopurulent discharge from the ear, often a sequel of fever, exposures, injuries, neglect.

No treatment so effective as filling the affected ear morning and night with peroxide of hydrogen, permitting it to remain for a time, until it boils thoroughly; refilling, and when thoroughly cleansed, drop in mullein oil.

The germicidal treatment of ear diseases with mullein oil and peroxide of hydrogen completely wipes out all fungus or vegetable growths, like the aspergillus, which often gives rise to deafness.

The loss of hearing is often caused by disease of the nose and throat, drinking ice water hastily, nasal catarrh.

The nasal douche, with ozone et chlorine, permitting to flow easily, and, when so doing, close the nostrils, instructing the patient to hold his breath; the fluid penetrates the collapsed Eustachian tube or tubes, and hearing is restored.

Aural vertigo is promptly relieved by the administration of a few drops of gelsemium.

As it is the brain which hears, the ear being simply an acoustic instrument, it is better in ruminating over the subject to classify deafness as chiefly nervous, of which there are five different varieties.

1. All that class of cases due to anemia of brain, exhausted vital force by sexual excesses, masturbation, shock; want of nutrition in brain; action of sun; railroad jars, meagre brain food, isolation, monotony, sameness, obliterating the cerebral convolutions. Best treated by removal of cause; nourishment, brain food, and remedies to give richer blood.

2. *Congestion.*—Plethora, determination of blood to brain. The deafness of fevers may be due either to this or anemia or toxins. Best treated with foot baths, free purgation, and stimulants to nape of neck.

3. *Reflex.*—Chiefly teething, stomach or liver, or bowels, or uterine irritation, or masturbation. Get rid of cause.

4. *Use of Drugs.*—Quinine, chloral, opium, belladonna, tobacco in large doses, carelessly, or indiscriminately administered, cause deafness.

5. *Organic.*—Due to some organic change in nerve or brain, as softening, or old age; involving the condition of senile atrophy. Very hopeless.

In the first four varieties an effort should be made at cure by an alterative and tonic course of treatment, keeping in view

that it is the brain that hears: that the auditory nerve, ear and appendages are simply the medium or instrument. Ear diseases are most amenable to constitutional treatment. In the organic form, treatment same as for chronic inflammation of the brain, blisters to nape of neck, brain food, change of air, especially to the mountains, where the atmosphere is highly rarefied and ozone abundant.

DECAY, NATIONAL.—The present age is one of degeneration and decay. The great men of our country have small minds with meagre ideas. The Caucasian brain is shrinking. The principal cause of all this is seminal incontinence. In its restricted sense, spermatorrhea means a constant escape of seminal fluid, without erection or pleasure sensation, but the term is used to designate all varieties of involuntary losses, which occur beyond the limits of health, and is synonymous with seminal incontinence. All cases dependent upon weakness or exhaustion, with increased anemia of the genito-spinal centre have phenomena in common, induced and perpetuated by hyperesthesia of the nerves which supply the prostatic portion of the urethra.

Seminal incontinence is met with in three forms, each of which may exist separately. Nocturnal emissions, which occur during sleep; accompanied with erections and erotic dreams; diurnal, while awake, without erection; and all the time, night or day.

There are no leakages or spermatorrhea in health. They are pathological, likely to be followed by languor and lassitude of mind and body, headache, backache, enfeeblement of the functional power of the brain, mental depression and impotence.

Whence comes the unsteadiness of character, the tremor of speech, the drowsing, apathetic condition, the convulsive seizures, the psychical changes and early paresis, with exaggeration of the reflexes?

Extreme debility and muscle waste, incidental to some cases of spermatorrhea, is most remarkable; both the pink and white marrow, the lymph canals, even the blood-corpuscles shrink, atrophy, and the muscular waste is immense. In those cases the patient is little else but skin and bone.

The active principle or alkaloid of muscle creatin is found in the urine.

Creatin crystals are remarkable for their brilliant and micacious aspect, which causes them, when viewed under the micro-

scope, to stand out conspicuously among other crystals with which, in the evaporated and colored extract, they happened to be surrounded. This micacious aspect alone is sufficient to distinguish them as crystals of creatin, as it is crystal of organic origin; it is always brilliant and micacious.

Creatin, the product of muscle waste, is a nutritious principle, as well as an excrementitious substance.

Ozonized thyroid extract, protonuclein, comp. tincture of matricaria, have each a definite action in checking this remarkable waste; c. p. solution of spermin meets the case precisely. In such cases in which the patient is a living skeleton, look out for creatin.

DECAY, PREMATURE.—Early decay, lost manhood, is becoming too common, and at a very early period of life. The reasons which may be assigned for this are masturbation, sexual excesses, coition with women of the town, withdrawal in the act of ejaculation, dalliance, gonorrhea, syphilis, sedentary habits, bicycle riding, etc.

We meet with premature decay in all stages or degrees, simply as a condition of partial death, in which the chief symptoms are excessive irritability, manifested by premature discharges, leakages, a moisture, imperfect erections, nocturnal emissions.

If the abnormal practices are persisted in, then the highly organized nerves of the glans-penis become dulled, blunted, their exquisite sensibility are impaired, ejaculations take place at the mere thought of coitus, inability to procure an erection, delay in making water, and other symptoms of impotency.

Every stage of premature decay has its own peculiar symptoms; all affect the brain and nerves, as well as the sexual appetite.

It is only within this last thirty or forty years that this partial death of the sexual organs has become extremely common, and at a very early period of life—from twenty-five to thirty, but more common from forty to fifty years of age.

From some of these causes, and others not enumerated, there seems to be a blight upon the sexual organs; the tone, the vigor, the sensibility, nay, the appetite itself is impaired. There is a partial or total loss of power, with no visible affection, but slight prostration during exertion or in hot weather.

These are but incipient symptoms. They do not at first threaten either life or reason, but they become progressive from bad to worse, at the same time become more obstinate to cure.

Middle-aged men, widowers, fast livers, are peculiarly liable

to this form of sexual apathy, or impairment, or loss of power, more especially if they are troubled with varicocele.

Perfect celibacy is not conducive to vigorous sexual power, for we see in widowers and men who have had sexual congress at proper intervals, that when they are deprived of it, they often have a secret draining away of the vital fluid in the urine, in the form of a few drops, but just enough week by week to weaken or undermine their health and strength, and render them liable to softening of the brain or paralysis.

The causes which produce premature decay also give rise to sexual paralysis, by which is meant a loss or decay of erectile power, a blunting of sensibility, a diminution in size of the organ; true, blows and injuries to the spine, softening of the brain, effect the same result. Men of all ages who have abused their sexual organs are its victims. Enlargement of the prostate gland at the neck of the bladder is most productive of all forms of premature decay.

An early symptom, a precognition of premature decay of the function of the testes, is a sensory numbness of the sexual apparatus, a sensitiveness of the testicle and spermatic cord; a dragging and stinging pain in the testicles that comes on in paroxysms. It may be accompanied by a painful sensation in one or both groins, or a stinging pain in the urethra during and after the ejaculation of semen.

Introduce a salix nigra bougie into the urethra and it will be found sensitive throughout, but aggravated at the prostatic portion. To overcome all conditions of premature decay it is indispensable that there should be a perfect subsidence of all excitement of the sexual glands. Gelsemium and passiflora must be administered in large doses every evening; during the day extract of black willow orally, by suppository and bougie, so as to dry up every vestige of seminal leakage. Then, and not till then, a constructive treatment should be commenced which should embrace the exhibition of matricaria for a tonic, twice a week thyroid extract, c. p. solution of spermin after meals, with the occasional use of the ozonized glycerite of kephalin, avena sativa and other agents to build up, best of diet, bathing and avoidance of all mental and physical excitement.

Decay, Sexual.—The great annual increase of sexual impotency demands the serious attention of our profession, and an enlargement of their views on this subject, which is sapping our vitals as a nation.

The causes are apparent, visible in an atmosphere highly

oxygenized in diet, in the use of tobacco and alcohol, in all insanitary conditions, in our literature, in our amusements, in nervous strain, masturbation and sexual excesses, that these and many other causes, acting either directly or indirectly, produce a central lesion in the brain or spinal cord or both.

A broader view of the causes of the pathological condition present necessitates a much wider range of treatment, not only to afford relief but a lasting cure.

Individuals suffering from sexual decay, whether twenty-five years of age or aged veterans of seventy, should place themselves under the care of physicians of the highest integrity and scientific skill, and not become the victims of the miserable charlatans who invade the profession. The times call for reliable, honest, scientific physicians, who are thoroughly conversant with newer methods of treatment, by *urethral bougies* soluble, which readily melt, run over the mouths or orifices of the seminal ducts and sympathetic nerves, and thus vitalize and prevent leakage; by *rectal suppositories*, which rapidly dissolve and are quickly absorbed into the seminal vesicles, the real seat or source of the local trouble; *plasters* to the base of the brain over the spinal cord at the origin of the sexual nerves, from which vital energy can be acquired; by the internal administration of drugs, *nerve builders*.

All these methods can be brought to bear on a bad case, or one may do the work. The reason assigned for this is, the seat of the difficulty is not always in the urethra, neither is it always in the seminal vesicles behind the bladder in front of the rectum, nor in the deadening or paralysis of the sensory nerves in the glans, or erectile nerves in the organ itself; neither may the brain and spinal cord be seriously involved at first.

In sexual decay the entire organism is sapped, drained out, exhausted, nervous system bankrupt, blood full of toxins, acid; appetite poor, digestion bad, vitality evaporated. This is the state of too many young, middle-aged and old men.

There is now hope for such cases in our extended materia medica, our newer remedies; our recent great improvements in pharmacology.

Take for example the ozonized soluble, urethral bougies. We have the *thallin,* a never-failing cure for *gonorrhea;* the *sulphocarbonate of zinc* for *gleet;* the *iodol* for *stricture;* the *salix nigra* and *oil of thuja bougie* for *leakages* and *seminal emissions;* while arresting an oozing, soothe, calm irritability, allay excitement and all tendency to sexual excesses or self-

abuse, while the *ambrosia orientalis bougie* restores strength, power, tone and equilibrium to the exhausted, deadened erectile fibres.

Take suppositories, witness the magical effect of the *ichthyol* in reducing an *enlarged prostate;* the salix nigra and oil of thuja in putting a complete stop to seminal emissions; the marvelous action of the *saw palmetto* in vitalizing the *prostate gland;* the marvelous action of the *protonuclein suppository,* the active principle of sexual life, being a nerve tonic, nerve food, a builder, vitalizer; and the *ambrosia orientalis,* stimulating brain, spinal cord and the several plexus of nerves, wiping out paralysis, wasting and atrophy.

Others might be enumerated; but add to these and many others well-tried remedies for oral administration, such as kephalin, avena sativa, protonuclein, thyroid extract, c. p. solution of spermin, ambrosia orientalis, muira puama, comp. matricaria.

The generative act on the part of the male implies the completion of sexual congress with an ejaculation of fertile semen, and its deposition in the upper part of the vagina. The capacity for copulation depending upon a perfect erection of the penis, the failure of which renders a man sterile from impotence. Sterility does not include impotence, but is met with in men vigorous in intercourse, but who ejaculate a fluid destitute in spermatozoa. Both these conditions are radically cured by the use of the kephalin granules.

DECAY, SENILE.—In nearly all individuals between sixty and seventy years of age, certain normal and abnormal symptoms of degeneration begin to appear, among the former debility, atrophy, with induration of the brain, a general shrinkage of vital organs, which give rise to a variety of nervous peculiarities, embracing with it the senile heart, with its slowed pulse, vertigo, epilepsy, high arterial tension. Degenerative changes are physiological, incidental to advanced age; but such symptoms as apoplexy, plethora, increase of blood pressure, melancholia, vertigo, bewilderment, are abnormal, pathological, and have a significance of their own.

Characteristics of the diseases of the aged: Pneumonia leads, 19 per cent; cancer, 15 per cent; bronchitis, 11 per cent; senile decay, 9 per cent; pulmonary tuberculosis, 5 per cent.

Senile decay can, to a certain extent, be retarded, never prevented.

Daily massage, the pumping of the vitality of the young, the

vital into the old, the feeble, the degenerative, rejuvenates, besides the peripheral stimulation fills the capillaries, promotes the nutrition of all vital organs, relieving the labored heart. stimulating the sluggish brain. The bathing incidental to well performed and daily massage removes the toxins of all disease germs from the surface.

The digestion and assimilation of food is promoted by the exhibition before each meal of that prince of all tonics, comp. tincture of matricaria ozonized.

After each meal three grains of protonuclein to increase blood formation.

This is the modern method of becoming young, or living to a very advanced age.

To this menu much can be added of real sterling merit, such as the occasional exhibition of the glycerite of kephalin, ozonized tincture of oats, c. p. solution of spermin, and a weekly dose of the thyroid extract.

DEFECATION.—The essential physical element in the act of defecation is peristalsis. A clear understanding of this function is of vital importance in this discussion. Peristalsis may be defined as a peculiar rhythmic contraction of successive muscular fibres of the intestine. This undulating movement extends through the length of the canal, thirty-two feet, and is called the peristaltic wave. It is less active in the large than in the small intestine. Its function in the upper bowel is (1) to assist in mixing the food from the stomach with bile and the digestive ferments of the pancreas and intestinal glands; (2) to bring nutrient matter in contact with large absorbing surfaces; and (3) to impel waste materials towards the lower bowel. In the large intestine and rectum its function is chiefly that of evacuating their contents. The rectum receives its innervation through the rectum plexus of the sympathetic system. Its communication with the cord and spinal ganglia lies through the sacral plexus. Its communication with cerebral centres lies through the hypogastric and the solar plexus, and reaches the brain through the pneumogastric nerve. Thus the muscular structure of the intestines is connected by two routes with the central nervous system, from which all primal impulses emanate.

The act of defecation is accomplished by the increased peristalsis of the descending colon, sigmoid flexure, and rectum upon their fecal contents, assisted by the fixation of the dia-

phragm and voluntary pressure of the abdominal muscles. We have said the essential physical element in the evacuation of the bowls is peristalsis. Let us bear in mind that normally it is a rhythmic, physical force; that the mechanism, nervous and muscular, by which the phenomena of peristalsis and defecation are accomplished are necessarily dominated by an intelligent, regulating mentality, which sends out these impulses to rhythmic action.

Any agent which promotes peristalsis will favor evacuation of the bowels. This stimulus may be: (1) *Mechanical,* acting on the peripheral termini of the sympathetic nerves, which convey their impressions to the central intelligence, which in turn sends out its motor peristaltic impulses. Such a stimulus is normally excited by the presence of feces in the lower bowel, by foreign substances like seeds, bran of wheat, oats, or corn, by ptomains from bacterial life or protozoa, by massage and physical exercise. (2) *Thermic,* as seen in excessive peristalsis of diarrhea from extremes of atmospheric temperature. Brief applications of hot or cold compress or enema will arouse peristalsis. (3) *Electric.* (4) *Chemical,* by the physiologic action of drugs such as kolatina.

DEGENERATION.—Retrograde metamorphosis, a change in the structure of an organ, in the solids and fluids, which are transformed into matter essentially morbid, such as fatty, amylaceous, fibroid, cystic, malignant, tubercular.

Degenerations, whatever may be their form or character, are disorders of the declining periods of life, and at whatever age they may occur, are simply manifestations of local senile decay or its equivalent. In no other way can the anatomical and clinical features of their condition be accounted for.

These primary perversions of growth and nutrition are to some extent heritable. In none of the forms of degeneration do they grow with regularity, but by successive impulses, alternating with periods of quiescence. Regarded as incurable, for healthy senile changes terminate either in complete ex-tinction of function of an organ or in death. We by some drugs can stave it off, but not permanently arrest the progress of age.

Degenerative changes often influence the rate of normal growth; they may even appear during fetal life, in early infancy, at puberty, or at the menopause; often originate in or are either aggravated or suspended by pregnancy or the

puerperal state; thus very many morbid conditions are implicated in the physical rise and fall of growth and nutrition.

Degenerative changes, overgrowths and shrinkage are identical in nature, if not in quality, with senile decay; granular and fatty degeneration of the liver cells of the kidneys and spleen assumes precisely the same quality and intensity as we have in old livers and osseous formation.

Degenerative changes are factors that are most frequently visible in the liver, in granular kidneys, leukocythemia, acromegaly, pernicious, anemia, etc., essentially aging and depressing in their character. Add to those anxiety, grief, depressing emotions, a residence in low-lying, malarious districts, sunless valleys, sewer engulphed cities, struggle, insufficient food and clothing, disease, syphilis, use of alcoholic drinks, with its offspring, gout, prolific of degeneracy; everything which debilitates and depresses.

The use of alcohol is far reaching in the production of degeneracy, not a food, but a stimulant, narcotizer; elevates, but at the same time degrades the mind, whittles down vital force, lessens perception and sensation, impairs and disturbs function, arrests normal metamorphosis. A stimulant narcotic whose action maintained for a reasonable period brings about mixed overgrowths, and accounts for the disastrous influence played by this remedy alone in the induration of brain; cirrhosis of the liver; granular kidney and fibrous and cystic degeneration of other organs. Again look at the action of some drugs, such as opium; its initial exhibition in early life gives rise later to cerebral and mental degeneration, fertilizes the crime instinct, perverts, damages, paralyzes the higher psychical centres, lessens the vigor of intelligence, weakens volitional power.

True, we have remedies that retard, delay these effects, such as coca et celerina, cacodylate of sodium, preparations of iodine and gold, saxifraga, thyroid ext. and c. p. solution of spermin, cinchona, with fresh air, sunshine, bracing sea or mountain breezes, electricity, massage, good food, bathing, congenial occupation, change, lively society.

A most remarkable feature of all degenerative changes of a senile character is their proneness to affect organs becoming extinct.

Myxedema generally first shows itself at the menopause; enlargement of the thyroid (goitre) at the middle period of life; osteomalacia, when the bone marrow is on the wane; osteitis deformans, when the shafts of the bone exhibit de-

generacy; prostatic enlargement from fifty-five to sixty-five years of age, when the male sexual organs are becoming extinct; weakened tissue, devitalized organs, afford a liability, a focus or seat for the entrance and a habitat for disease germs, so with structures which have suffered from mechanical violence often become the seat of either innocent or malignant tumors.

Degenerative hyperplasias of the stomach, pylorus, breast, tongue, thyroid gland, liver, bone marrow, shafts of bone, are not affected by age more than other organs, but from perverted nutrition, a growth of cells of a low order, not degenerative, perhaps, but embroyonic cells, or of a low type of sporadic origin, dwarfed and pernicious, influenced by all adverse conditions, malformation, error in growth, defective development, premature decay.

Speaking thus generally of degeneration, we might remark, that there can be no general deterioration of the human race, for the evil cures itself in non-procreation; there can be no establishment of a morbid race.

DELETERIOUS TRADES.—Strange to say, you cannot frighten the workmen who know how dangerous is their trade, and not even higher wages will tempt them from such death traps. Lead, in the form of bullets and shot, is a deadly, dangerous thing, but it is also death-dealing to all who use it in their work, as house painters, gilders, calico printers, type founders, potters, and braziers.

Mercury is a foe to life. Those who make mirrors, barometers, or thermometers, who etch, or color wood or felt, will soon feel the effect of the nitrate of mercury in teeth, gums, and the tissues of the body.

Silver kills those who handle it, and photographers, makers of hair dyes, and ink, and other preparations, ere long turn gray, while a deadly weakness subdues them, and soon they succumb.

Copper enters into the composition of many articles of everyday life, and too soon those who work in bronzing and similar decorative processes lose teeth and eyesight, and finally life.

Makers of wall paper grow pale and sick from the arsenic in its coloring, and match makers lose strength and vitality from the excess of phosphorus used in their business.

Nitric acid is used by engravers, by etchers in copper, by

makers of gun-cotton, and those who supply our homes with lovely picture frames. Its fumes are poison to the human lungs, and soon destroy them completely.

Ammonia kills the soap makers; workers in guano grow deaf; hydrocyanic acid deals death to gilders, photographers, and picture finishers; while zinc is a fatal foe to calico printers, makers of optical glasses, and meerschaum pipes.

Mankind is, by nature, brave, and very few are deterred from action because of supposed danger. If the great builders and engineers of the world would stop and ask, "How many lives will this undertaking cost?" it is probably that we would be without some of the greatest triumphs of modern thought.

Everyday life and common occupations are full of silent courage, and all around us are workers who die in the harness, and are true heroes without knowing it.

Statistics gives the ages about which these operatives die.

Among the operatives who die on the average before the age of 40 are porcelain turners, stonecutters, and female mirror makers. Under 45, goldsmiths, lead and quicksilver miners. Under 50, cabinetmakers and operatives in cotton-mills. Under 55, needle-polishers, file-cutters, and engravers. Under 60, blacksmiths, butchers, carpenters, machinists, turners, watchmakers, and gravediggers. Under 65, tanners, dyers, gasmen, catgut makers, and bone-boilers. Above 65 only three trades are mentioned. Physicians, surgeons, chemists and druggists, mercers and drapers, hairdressers, barbers, wigmakers, hatters, miners, and some others have a high but not an excessively high, rate of mortality. Carvers and gilders suffer less than they did; and manufacturers of wool, silk, and cotton no longer experience an exceptionally high mortality. Among the healthy classes may be named carpenters, wheelwrights, and workers in wood generally, shoemakers, grocers, publishers, and booksellers. Among the healthiest and longest-lived are the agricultural classes, gamekeepers, barristers, and the clerical profession.

DELIRIUM TREMENS.—The congelation of both the gray and white matter of the brain by the use of alcohol is always accompanied by disturbance of the renal functions—a nephritis, accompanied with albuminuria.

Delirium tremens varies much in different countries and races, and with the quality of the spirits consumed, but in all insomnia is the leading, distressing symptom of the drunkard.

The malady, properly speaking, is an acute auto-intoxication of the brain following the insufficient performance of the renal function—a failure at elimination of auto-toxic products as well as alcohol.

The special forms which the disease assumes, namely, hallucinations, terrifying visions, tremors, wasting, are chiefly due to the part of the brain involved in the general break down, and the constitutional debility, embraced in cerebral anemia. In the interstitial atrophy, loss of cohesion in brain substance, it shrinks from its bone case and its specific gravity is abnormal. The specific gravity of the cerebrum in a healthy man is 1050; cerebellum 1043, in delirium tremens falls to 1030, same as general paralysis. The terms softening and induration are used in the most uncertain manner. In the use of alcohol, the function of the brain is impaired, interrupted; its nutrition is disarranged; its vessels, cells, tubules, are filled with an adipose albuminous material, which produces actual ramollissement, often giving rise to liquefaction, a decided change in limited portions before the entire brain becomes disorganized. Whatever treatment be adopted in any individual case we say give kephalin granules, the great reconstructor of lost vital force. The passiflora incarnata should in all cases be administered to rectify molecular nutrition.

Other forms of delirium consist in an acute disorder of the mind, due to irritation of the gray matter of the brain. It varies in degree from incoherent ideation to complete mental derangement. It may be quiet, garrulous and noisy, low and muttering, or quite maniacal. It may be due to inflammation of the brain, organic disease of the brain, poisonous substances circulating in the blood, reflex irritation (as when there is great pain elsewhere), or to great mental shock. The nervous constitution of the individual is also a factor which must be considered. Intemperate people are very liable to delirium from causes which would not produce it in an ordinary individual.

DENTITION.—In man and most mammals, there are two distinct sets of teeth; one set which appears shortly after birth, and which are termed the *milk* or *deciduous* teeth; and a second set, which, after a few years, replaces these, and which are termed *permanent* teeth.

In the human subject, the milk-teeth are twenty in number, each jaw containing (from before backwards) four incisors,

two canines, and four molars; while the permanent teeth are thirty-two in number, each jaw containing four incisors, two canines, four bicuspids, and six molars.

The following is the usual order and period of appearance of the milk-teeth: The four central incisors usually appear through the gums about the seventh month after birth, those of the lower jaw showing themselves first. The lateral incisors next appear between the seventh and tenth months; the anterior molars show themselves about the thirteenth month, and are soon followed by the canines, which usually appear between the fourteenth and twenty-first months. The posterior molars are the last and most uncertain in their time of protrusion, which may range from the eighteenth month to the end of the third year.

About the middle or end of the seventh year, the jawbones have become sufficiently elongated to permit the appearance of the first true molar; and about the same time, the central incisors are replaced by the corresponding permanent teeth. The advance of the permanent teeth towards the surface of the gum causes the absorption of the roots of the temporary teeth, and thus facilitates their shedding; the crown falling off, and leaving room for the permanent tooth behind it to come forward and supply its place.

In the replacement of the first by the second set of teeth, the following order is observed: The middle incisors are first shed and renewed (usually when the child is about eight years of age), and then the lateral incisors (perhaps a year later). The anterior molars of the first set are then replaced by the anterior premolars (this usually happens about the eleventh year); and about a year afterwards the posterior deciduous molars are replaced by the second premolars. The permanent canines take the place of the deciduous ones in the twelfth year; these being the last of the milk-teeth to be exchanged.

The dangers of teething among children are chiefly due to a want of phosphates in the blood, hence there is not material for their nutrition—hence they grow slowly, dentition is retarded—the reflex effect is disastrous, as the whole organism is undergoing a revolution, most productive of bacteria in the mouth.

MORBID DENTITION.—Precocity, irritation of gums, due to want of phosphates in the food; tissue starved; cerebral disorder; give rise to convulsions, spasms of glottis, cough, indigestion.

Irritation from non-advancing teeth occurs because the normally flinty teeth, to which the soft gums can offer no practical resistance, are suffering from lack of nutrition. While the gum lancet gives temporary relief, yet it transforms normal into cicatricial tissue. In place thereof, the writer recommends correcting any faulty conditions in the infant's alimentary tract, and placing it upon a mixture of the calcic salts, approximating the proportions as nearly as possible to those found in the teeth. For example:

R. Calcium phosphate ..... 2 parts.
Calcium carbonate ..... 3 parts.
Sodium phosphate ..... 1 part.

M. Triturate to an impalpable powder. Sig.: Three to four grains, or more, with other food, three or four times a day for a week then once a day, *pro re nata.*

In anemic children a trace of ferric phosphate is added.

The decay of the teeth (caries) is exceedingly common, especially so among civilized people. The lack of power to resist this disease may be due to the depression of vital vigor through overtaxing the nervous system or through sedentary habits and luxurious living. In this, as in other matters, there are inherited tendencies, and the children of those whose teeth decay early themselves suffer the same evil.

The solution is found in the germ theory, which has already settled the origin of so many infectious diseases.

Dental decay is due to the microscopic germs which are called bacteria, the smallest of organized beings, so small that it takes 100,000 of them placed lengthwise to measure an inch, belong to the plant family. They multiply both by division and by the formation of spores. The spores, which correspond to seeds, have great vitality, and are unaffected by the temperature that would destroy the parent plant. The multiplication by division is exceedingly rapid.

Thus the total eradication of the germs is almost out of the question, and in even a short time, if the pest be neglected, it becomes difficult to limit the harm they can do. That harm may be effected either by the growth of the bacteria at the expense of the cells of the body, or more probably, perhaps, by developing a poison in their waste products.

It must be remembered, however, that many kinds of bacteria are perfectly harmless, while it is possible that some aid in the vital processes of the organism.

The mouth is infested by several forms of innocent bacteria.

The saliva is never free from them. Therefore, in order to ascertain if dental caries is due to bacteria, most rigorous tests were necessary. The bacteria must be found in the decayed matter of the teeth; be isolated from every other kind; cultivated outside of the body, and the pure cultivation must produce a similar caries when introduced into healthy tooth, and this caries must show the same form of bacteria.

Judging from the questions constantly asked the dentist, it is no exaggeration to say few people have a clear conception of the causes which lead to decay of the teeth.

Chief among them is the fermentation of particles of food lodged between the teeth, or in their pits or depressions, during mastication. When, through carlessness or indifference, these deposits are not removed, under the influence of the warmth, moisture and the microbes present, fermentation, or chemical change, takes place and an acid is generated, and this dissolves the enamel and dentine, leaving a cavity to grow larger and deeper.

The dentine is of a tubular structure, and in these tubules the microbes which constantly exist in the mouth penetrate, where they continue their destructive effect till the tooth is completely destroyed.

Microbes are minute vegetable organisms, some of the many species of which are so small that they are only visible under the highest powers of the microscope. They are the cause of a large class of infectious or contagious diseases, and between them and the body there is a constant struggle.

The process of fermentation is of itself but the growth and multiplication of these minute organisms, and in this process of their life-history they produce the acids and other poisonous materials which make them so fatal to mankind. Their number is inconceivable.

These are the direct causes of decay of the teeth. But there also exist indirect, or contributing, causes, and these may be anything which will lower the general tone of the system, and make it less able to resist the action of deleterious agents.

Among these secondary causes producing decay may be mentioned any protracted sickness, the lack of outdoor exercise, excessive study, anxiety, or worry, which undermine and weaken the system. When the body is ill, no one organ can be said to be perfectly sound.

The teeth may be crowded or depressed, or there may be fissures which offer a ready means for lodgment of food. The

walls of the teeth may not be dense, and their power of resisting decay may be very weak; or the food may not contain the necessary elements for nourishing the teeth, and hence the work of repairing the wear and tear of daily use may be but poorly accomplished.

Again, there may be an hereditary tendency to decay. That our ancestors suffered from any special ailment does not necessarily demonstrate that it will be reproduced in us, but it is probable that the same debilitating conditions will be inherited. Their consequences can, however, be avoided by proper and unremitting care. These causes are constantly at work, producing decay of the teeth and forming minute cavities, through which the decay rapidly progresses till the living matter of the tooth is reached. Unless this is checked, the tooth will be totally wrecked; even if it be not wholly destroyed, it will be so badly decayed that it will threaten the welfare of the entire dentition, and therefore it may become necessary to extract it.

DETERIORATION OF RACES.—The human race never can suffer degeneracy. There is a limit which terminates in non-procreation. There is no establishment of a morbid race.

The demand made upon the working capacity of man in the present age is excessive, enormously increased; the call is for rapid action, intense exertion, gigantic effort. Thirty years ago life was tranquil, leisure abundant, competition small. Now we have the inevitable struggle which adheres to the survival of the fittest.

The results of this incessant brain activity create an insufficient supply of vital energy—a functional neurosis, characterized by deviations from the normal, with an inability to perform the usual amount of physical and mental work. A poverty of nerve force involves a weak brain, spinal cord and nerves, nervous exhaustion, neurasthenia, which may be either hereditary or acquired.

Loss of sexual power is usally an early and constant symptom, gradual in its outset, and exists in proportion to the amount of depression present. For this condition there is no remedy so valuable as isolation, rest, massage, and comp. matricaria, and ozonized glycerite of kephalin. The latter is the only known drug that will prevent a deterioration or degeneracy of the human race.

Degeneracy is attacking the native American race. There is a failing birth-rate brought about by masturbation, corrupt

morals, dishonesty in all spheres of life, which induces systematic decay, an increase in crime. Simultaneously with this diminished birth-rate, infanticide, insanity and suicide increase. There is no room for doubt that masturbation, sexual excesses give rise to racial degeneracy and non-survival. No nation can withstand the constant drain on vitality, the cessation of mental and moral growth, the upsetting of principles, the upsetting of life's activities as seen in the daily life of America.

Kephalin meets all the indications of creating a higher type of manhood.

At the very origin of this state of degeneracy lies neurasthenia, a poverty of nerve force, a condition in which the nerve centres are exhausted, the store of energy drained off, not only weak but chronically and constitutionally without force or energy every gland is sluggish, inertia, auto-intoxication, blood and tissues loaded with effete matter, with poisons generated in the alimentary canal, in such quantities that the liver is unable to destroy them, neither can the kidneys eliminate them; tissues are literally saturated with these toxins; nerve centres not only weak but stupefied with alkaloidal poisons; the whole body out of gear by the presence of ptomains and toxins.

Enervating diseases bring about neurasthenia sooner or later; sooner, for the intestinal tract is simply a hot-bed of disease germs, whose toxins are nerve irritating, brain stupefying, heart exciting, tissue paralyzing, deranging every vital function or process.

Such condition kephalin will cure. Neurasthenia is hourly on the increase, for every new discovery or mechanism in everyday life multiplies the production of new diseases; every new discovery in the hands of the degenerates develops new pathological conditions, new forms of crime. See what the bicycle is doing—giving us a doubled-up, hunch-backed race; idiotic, an instrument of crime, disease, degeneracy; it is the etiological factor of prostatic catarrh, spermatorrhea, impotency and sterility, a loss of reproduction which kephalin can only cure.

We state again, to be more emphatic, that there is a marked tendency at the present time for the birth-rate to keep pace with the death-rate, even a slight excess of deaths in some States. Is this infertility of the pure colonial stock, native American, to be supplanted by the dregs of reeking brothels of European and Asiatic pauperism and crime? Most assuredly no. The cause of this decay is a loss of reproduction; fecundity is the factor which maintains the survival. The fertility and sterility

of our people is one of absorbing interest, and does not receive the attention it deserves. The decay is apparent in a loss of pristine vigor, which the daily use of kephalin can overcome, aided by good diet, a strict avoidance of all alcoholic beverages, prolong sleep, stamp out all excesses, enforce more rest, cut off all expenditure of energy, mental and moral peace, essential conditions for rapid recovery. The daily bath with massage has tonic properties equaled by no known drugs, a temperature borne without discomfort. Properly manipulated, it has strong and powerful effects.

DENGUE, BREAK-BONE FEVER.—Along the entire seaboard of the Southern States every summer and fall there is quite an epidemic of this fever, characterized by well-marked symptoms of prostration, great pain and stiffness in the bones, so agonizing that he cannot move a limb. Most excruciating in the forehead and orbits, increasing in intensity and severity, with some delirium and sleeplessness.

Usually a well-defined period of incubation of about forty-eight hours, followed by violent rigors and a very high fever, which, if not interfered with, continues for four days, when symptoms diminish and a very variable form of eruption makes its appearance; some cases a mere erythema; in others an urticaria; while in another class of cases a papular rash, with burning and itching all over. The eruption usually continues a few days.

The microbe, which is pathognomonic of the malady, is found in great abundance in the scrapings or scales of the eruption; in the coating of the tongue, saliva, blood; the liver, spleen and lymphatic glands suffer congestion, but not to such an extent as in yellow fever.

The victims of dengue are the poor, badly clad, ill fed, half-starved denizens of the rice swamps.

If nursing is procurable, then emesis by the administration of comp. lobelia powder; free action of the liver; an alcoholic vapor bath, or bathing the skin all over twice or thrice daily. As to curative remedies, the concentrated tincture of kurchicin completely annihilates the microbe; and just as this remedy effects that result, symptom by symptom yields, until it disappears.

One teaspoonful of the kurchicin every three hours. No other remedy can effect what this performs. If the patient is

much prostrated it can be administered per rectum, either in the tincture form or as a suppository.

In the absence of the kurchicin, the suppository of quinine is next best. This operates well, as it produces no cerebral disturbance whatever.

DERMOLIA.—An emollient, healing cream for acne, eczema, and all abrasions and eruptions of the skin. Instantly relieves the intolerable itching and burning sensation of the skin in cutaneous diseases, prurigo, psoriasis, etc. An admirable substitute for the old-fashioned zinc ointment, which it far excels, as it is beautifully smooth and of creamy consistence and delicately scented. In all roughness and irritation of the skin its healing and soothing properties are gratefully recognized.

Dermolia is an ointment which possesses strong healing properties, being thoroughly antiseptic, germicidal, non-poisonous, unirritating, and powerful promoter of a reparative process. It is of great efficacy in all contusions, incised and lacerated wounds, no matter how inflicted.

Its application requires no safeguard. Simply apply it freely and at least renew twice daily.

If the ordinary precautions be observed, such as the removal of foreign bodies, the arresting of hemorrhage, the approximating of the edges, close by sutures, then this ointment applied, wounds rarely if ever suppurate, but invariably heal by first intention.

An ointment of superior efficacy in burns; splendid results follow its application in old indolent ulcers and in all vegetable parasite affections of the skin.

DIABETES.—The increasing prevalence of glycosuria—its dependence upon some disturbance of the origin of the eighth pair of nerves in the base of the brain, giving rise to cerebro-spinal complications—the fact that it is very common among the neurotic and insane, is significant, unusually common among the paralyzed, possibly an etiological factor, at all events associated with, or dependent upon, chronic brain disease, shocks to the great sympathetic, concussions of the brain, involving the diabetic centre in the fourth ventricle.

The enlargement of the liver, the smallness and softness of the spleen, the paleness of the heart-muscle, the atrophy of the pancreas, the saturation of the fluids and solids of the body with

saccharine elements, give rise to many complications, such as tuberculosis, which infiltrates the lungs; boils, opacity of the lens, giving rise to cataract; gangrene of the skin.

Saccharine diabetes grows more prevalent annually, just as neurasthenia prevails. The loss of vigor is usually associated with increased appetite for food and drink; the tongue changes to red and dry with transverse fissures; skin dry and harsh, a partial or total absence of perspiration, with a flow of urine increased in quantity, loaded with sugar, and of a high specific gravity, ranging from 1035 to 1060.

Albuminuria may be associated with glucose; polyuria is aggravated at night; constipation an inevitable attendant.

To give a favorable prognosis in any case in which the glucose is permanently present in large amount, is assuming too much in practically an incurable condition.

All that can be claimed for the best scientific treatment is a stay of the progress.

Daily baths, massage, and relieving the constipation are useful.

The introduction of jambul in the treatment of every case of diabetes is most important. It has proved exceedingly beneficial in arresting the transformation of amylaceous substances into saccharine. It is a remedy never to be omitted.

In addition to the very large amount of glucose in the blood, the fungus excretes a ptomain, an alkaloidal body, the product of chemical change, of bacterial life, which possesses great tenacity, and materially aids in the general breakdown. It has been ascertained, by careful clinical observers, that kephalin and avena sativa completely neutralize or antagonize this toxin.

The active principle of these two remedies has been isolated and re-combined in the form of the kephalin granules, which, when prescribed in all cases of glycosuria, effect very wonderful curative results; repairs the central brain lesion; rectifies the errors of nutrition; diminishes the amount of sugar secreted by the liver; relieves the pain in the joints; appeases the voracious appetite for food and drink.

This remedy, the kephalin granules, is the only one that promises hope for the future.

Whether paroxysmal or permanent, the presence of grape sugar in the urine is indicative of cerebral wreckage.

An irritation of the brain, transmitted to the liver, causes grape sugar to be elaborated in great abundance; so much so, that the ozone-forming faculty of the lungs is incapable of

burning it up; hence, the presence of this agent in the blood and tissues of the affected individual's body, in such abundance as to give rise to the presence of a fungus in the blood—a living breeding microbe, pathogenic of the disease, whose toxin is most inimical to brain vigor.

There is no microbic affection so easy of recognition as this—the intense sensation of goneness; the excessive appetite for either food or drink; the chloroform odor of the breath; obstinate constipation; arrested function of the skin; visional trouble, occasionally cataract; urine loaded with grape-sugar. Usually a very high specific gravity, ranging from 1020 degrees to 1060 degrees, later stages tuberculosis. Fungus easily isolated from the urine, and can be cultivated in any saccharine or amylaceous fluid at a temperature between eighty degrees and ninety degrees.

The very great increase of diabetes all over our country is leading scientific minds to investigate the causes. One important conclusion has been reached, namely, that wherever coal tar derivatives are prescribed, that is, antipyrin, phenacetin and somatose, there diabetes is liable to follow; that is, there will be prostration, chloroform breath, dry husky skin, saccharine urine, of a high specific, with an increased appetite for either food or drink.

DIABETES (GLYCOSURIA. THE SUGAR FUNGUS).—A dangerous and fatal malady, the leading symptoms of which are profound prostration, voracious appetite for food and drink, with the discharge of an excessive quantity of pale urine of a high specific gravity, loaded with glucose, general derangement of health; pains in the loins, cramps in the legs, insomnia and great restlessness, symptoms become gradually worse; emaciation, sugar increasing, appetite failing, and a breakdown in the brain terminates the difficulty.

During the last century this morbid condition was peculiar to adults of both sexes, but in the twentieth century it is becoming quite common among children. With them it is usually acute, early and rapidly fatal, but as age advances its acuteness passes off, and symptoms diminish. Incontinence of urine arising suddenly in a child suggests the possibility of diabetes.

It is not a neurosis, but is due to some form of cerebral irritation, indigenous to modern civilization, such as modern travel. Habitues of both steam and electrical cars are subject to jolt and jar, which induces a disturbance of the cerebro-spinal fluid, which irritation is communicated to the cord, thence to the brain in the fourth ventricle.

Certain it is that railroad employes are its victims, and cerebral irritation is a constant factor.

Glycosuria is a transitory condition brought about by some neurosis, such as some onerous and perplexing duties, lack of recreation, something that will produce some functional nervous disorder.

The newer materia medica brings to the front some remarkable remedies of rare value in the treatment of this disease.

Jambul is a remarkable medicament, when administered prevents the pytalin of the saliva from converting the amylaceous portion of the food into sugar. The remedy has achieved much success. The powdered seeds in five-grain capsules is the only of the food into sugar. The remedy has achieved much success. The powdered seeds in five-grain capsules is the only form that is admissible. By taking one or two after meals the evolution of the glucose fungus is completely cut off. The specific gravity of the urine becomes normal, quantity also is decreased, and the entire aspect of things is changed.

The powdered drug in pearls or capsules only effects such important results.

Another exceedingly valuable remedy in all cases of diabetes is the ozonized comp. tincture of matricaria. It is especially valuable when certain psychical symptoms, and such physical symptoms as immobility of countenance, diminished resisting power, heart failure, sleeplessness, cervico-occipital pain or distress and dyspepsia are of most frequent occurrence. It is worthy of a trial.

The ozonized glycerite of kephalin and tincture of avena sativa have effected wonderful results in this malady. In their administration the matricaria is best given before meals and the kephalin or oats immediately after—all well diluted in water.

Protonuclein in diabetes is at present under observation. All cases so far in which it has been used apparently do well, are much improved, and manifest conditions of recovery.

In health the pancreas yields a secretion which acts on all the principal organic constituents of the food and prevents any excessive production of sugar within the body, and profoundly modifies the metabolism of the tissues.

If the pancreas becomes diseased, if this internal secretion be deficient or absent, glucose or grape sugar is to be found in all the secretions and excretions, in all the solids and fluids of the body, and an evolution of the microbe of diabetes makes its appearance in the bood and tissues.

The causation of either temporary or permanent glycosuria is of much interest, as depressed states of the brain and great sympathetic; hard work, great mental anxiety, shocks; the action of the sun, malaria, all react either directly or indirectly upon the pancreas.

Essentially a disease of civilization; annually increasing in frequency among men who exercise their brain and nervous system inordinately. Excessive wear and tear of this life centre sooner or later brings about great exhaustion.

Diabetes then originates in a want of nerve power, affecting the chemical centre in the brain and the pneumogastric nerve, branches of which supply the vital organs.

In the recognition of this malady it is not well to depend upon the excessive appetite for either food or drink, neither upon symptoms of indigestion, nor upon frequency of urination, nor upon abnormal sensitiveness to cold, nor wasting, nor cerebral depression, nor impoverished blood, but rather upon the persistent presence of sugar in the urine, with its imperfect combustion in the lungs, giving rise to the chloroform breath, paralytic condition, with impoverished blood laden with fragments of broken down corpuscles, which obstruct the current, plug up the capillaries, giving rise to boils, abscesses, carbuncles.

The persistent presence of sugar in the urine is the leading feature of diabetes; glycosuria, occurring in gouty subjects, signalized by occasional appearance, differs materially from that which is persistent—polyuria. In the latter excessive appetite, great weakness, inflammation of nerves, nutritive changes, degeneration of usual organs, diminution of vision are found.

Whether it be simply glycosuria or true diabetes it is invariably a good plan, tends to prolong life many years, to keep down the amount of sugar circulating in the blood. This can be effected best by the administration of from five to ten grains jambul seed pulverized, in a capsule, which prevents the conversion of amylaceous substances into sugar.

Whatever the type of diabetes be, temporary or persistent, in every case give jambul; only the fresh pulverized seeds, as it completely gets rid of the sugar in the urine. Don't let drug concerns saddle you with any other preparation, as they are completely worthless.

Animal extracts are looming up as the only curative agents. Very many cases might be enumerated in which thyroid extract

has arrested the morbid process; kephalin or cerebrin works admirably, both the glycerite and the granules. Our very best remedy, as it seems to retard the rapid metamorphosis of tissue and keeps the urine at a normal standard.

Paroxysmal glycosuria is simply the first step. It eventually develops in diabetes. It is not supposed to be the sugar that causes the fatal explosion of diabetes. The toxins are held responsible for the acetonuria.

It is customary in this malady to restrict or forbid the use of all saccharine or amylaceous articles of diet, but this is not necessary if five or ten grains of jambul in capsules be taken after eating. This remedy prevents a change in the starchy elements of the food, and prevents the sugar fungus from forming.

The systematic administration of intestinal germicides has met with much success, such as siegesbeckie tablets, thymol, salts of uranium, resorcin, ozone water or peroxide of hydrogen.

In the present age opium is out of date. No more sheet anchor about it, but a means of soothing the patient to the grave. The up-to-date remedy is the ozonized tincture of passiflora incarnata, administered in large doses every three hours. It has a most salutary action on any tissue of the body. It should be persistently administered. Nitrate of strychnine or comp. matricaria best tonics, either one before meals. Rhus aromatica has formed a valuable remedy in this disease. The tincture of the bark of the fresh root in from five- to thirty-drop doses. It is worthy of a trial.

The administration of the glycerite of kephalin is esteemed by our best clinical teachers as the only curative remedy in diabetes; overcomes the extreme debility, the loss of sexual power, the progressive emaciation, the insomnia, repairs the cerebral lesion.

In cases of diabetes where there is reason to suspect that the normal secretion of the pancreas is absent or in abeyance, trypsin should be made into pills and coated with keratin, so as to pass through the stomach unaltered. The alkaline bile or duodenal secretion will dissolve the keratin and set free the ferment, and thus supplement the pancreatic secretion.

The ordinary diabetic diet is meat, eggs, and milk, with vegetables containing no starch. Almond flour and gluten are also used. The patient soon tires of these; and, moreover, the excess of nitrogen is almost sure to be followed by decomposition and auto-intoxication. If, as is generally supposed, derangement

of the liver is the cause of diabetes, the abnormal increase of the work of the liver on account of the auto-intoxication would naturally tend to increase the diabetic symptoms. Fruits can be used freely. They give variety to the diet, and furnish the much-needed carbonaceous elements without increasing the sugar. They tend to diminish gastro-intestinal decomposition, and hence take work off from the liver, so that it is better prepared to attend to its function of storing up the sugar until it is needed.

Give the patient all the water he wants; feed him freely on fruits; they increase the alkalinity of the blood, and this favors oxidation of the sugar. Give him nitrogenous foods in the form of gluten gruel or mush, gluten biscuits and nut foods. If he is vigorous, have him exercise; if feeble, keep him in bed.

In Bright's disease the albumin is being passed off from the body, while some of the poisons are being retained. The kidneys are crippled; the indication is to diminish the loss of albumin and to flush out the kidneys and then get rid of the accumulated matter which prevents their free action. With a fruit diet there are less ptomains from intestinal absorption, and less extractives from the meat, and hence less work for the liver and kidneys. The fruit also acts as a slight diuretic, causing the passage of more fluid, and thus acting as a flush to the kidneys.

DIAGNOSIS (To Learn Disease).—A physician, when consulted by a patient, is naturally enough expected to be an attentive listener to what, to his informed mind, is a strange medley and most confused account of those deviations from health or actual sufferings by which the patient has been driven to seek aid. The more serious symptoms are often lightly touched upon, the more trivial exaggerated, and the whole jumbled together without logical sequence or the slightest attempt at orderly arrangement. This story, trying as it is to the physician, and all the more trying the more his own mind is duly trained, he ought to listen to; for this the patient expects, and perhaps has a right to expect. During the tedious narration it may give him patience to bear in mind two considerations: first, that from it he must obtain the right end of the clue which is to guide him in the difficult task of ascertaining the nature, extent, and seat of the disease; and, second, that by this often most prolix narrative, taken along with his attitude, manner, and expression, the patient, absorbed in his own sufferings, is

giving his physician, if he is careful and observant, the best opportunity of becoming acquainted with the *ego* with whom he has to deal.

The most critical examination of symptoms, the most careful inquiry into the state of internal organs, the most logical deductions from these as to the morbid changes from which they have originated, will often be erroneous unless the physician is also a student of human nature, and is able to arrive almost intuitively at some knowledge of the mental characteristics and peculiarities of the patient.

But sooner or later, and more often later than sooner, the patient will have arrived at the end of his narration, and then the physician must unravel for himself this tangled web; and, taking the different threads, he must follow them up, and by means of close physical examination, ascertain the condition of the various organs of the body, particularly those which the train of symptoms detailed indicates to be implicated in the morbid process. It is only by a methodical examination of the different systems of the body that a satisfactory view of the condition of the patient can be obtained, and the very foundation of rational treatment laid.

HOW TO RECOGNIZE DISEASE.—In order to do this with certainty the patient should be examined according to a well-defined plan or order. The name, age, occupation, residence, temperament, previous history, sex, should be carefully noted, and then inspection, palpation, measurement, percussion, auscultation, pulse, tongue, skin, secretions, excretions, heart, respirations, etc., carefully noted. All interrogations should be put to the patient in plain language such as he can readily comprehend, in systematic order, so as to arrive at a precise knowledge as to what kind or nature of deviation from health has taken place; and, above all, in our examinations and manipulations we should never forget that we are learning the disease of a fellow-creature like ourselves, who possesses the same feelings and sensibilities. Prudence, delicacy and kindness should, therefore, guide our movements. The consulting room of a physician should be as sacred as the confessional, never degraded into an engine of terror or extortion. There should be the strictest honesty of purpose, conduct pure and exalted, and everything called by its proper name, never overstated, never condescending to anything ignoble, never coining names for trifling maladies, or aggravating the type of a disease. Patients should not be maltreated by endless examinations, speculations,

applications, and by drugging for years when nothing is the matter.

Disease is best studied between fifteen and forty-five. Diagnosis during that period is much aided by stability, perfect ossification, pulse, respirations, heart being steady, and all the functions of the body up to a healthy standard.

INSPECTION.—Inspection of the general position of the patient in repose and in motion is often very suggestive. The position and attitude in fever and inflammation, in paralysis, hydrothorax, asthma, colic, and spasmodic diseases are highly characteristic. The recumbent posture on back indicates debility; quick forcible changes indicate excitement of the nervous system, while fixed or restrained movements are dependent on paralysis or inflammation.

Inspection of the countenance is of great importance, observing whether sadness, peevishness, despair, fear, joy, grief, or other emotional condition is evinced. The yellow color of the skin in jaundice, its uriniferous aspect in Bright's disease, speak volumes; whereas its conformation tells us much, as the corrugation of the brows in pain of the head. Pain in the chest causes the nostrils to be drawn upward; in the abdomen the lips to be raised and stretched over the gums and teeth.

Inspection of the chest refers to the form and configuration of the entire thorax and its various parts, and a careful comparison of the two sides, whether in motion or at rest. The motions of the chest are referable to inspiration and expiration, which pass imperceptibly into each other. In disease these motions are altered in various ways. First, by excess or diminution, as in asthma and laryngeal obstruction. Second, by partial immobility as in pleurisy, or by augmented expansion as in pneumonia and pleurisy. Third, by increased rapidity as in pericarditis, or unusual slowness as in coma.

Inspection of the abdomen is no less important than that of the chest. In health it is slightly convex, marked by elevations and depressions corresponding to the muscles of its walls, the umbilicus, and prominences of the viscera below. It varies with age and sex; smooth and flat in the young; broader inferiorly in females than in males, from the greater width of the pelvis. In disease it may be enlarged generally and symmetrically, as in dropsies; partially or irregularly in ovarian, hepatic, splenic, and other diseases; it may be retracted from emaciation or intestinal obstruction. The respiratory movements of the abdomen bear a certain relation to those of the

chest, and are increased or arrested with them. In pleurisy the respiratory movements are mostly abdominal; in peritonitis altogether thoracic. Disturbed relations of the respiratory movements of both abdomen and thorax are useful points in diagnosis in hydrothorax, asthma, ascites, abdominal tumors, etc.

PALPATION.—This is a valuable mode of examination, and is best practiced by simply pressing the tips of the fingers against the various parts. In some cases the whole hand or both hands are used. The most favorable position for palpation is the horizontal or erect. The information that palpation gives is: First, increased or diminished sensibility. Second, the altered form or shape, size, density, elasticity, etc., of the parts under examination. Third, the different kinds of movements to which they are subjected. Pain, if inflammatory, is increased on pressure; if neuralgic, it is relieved. In paralysis, the diminution of sensibility can only be ascertained by feeling the part, and the limitation of the anesthesia is best arrived at by pricking the surface. Alterations in size, form, density are often made out by palpation; a change in elasticity, hypertrophy, or atrophy is also easily discoverable. Certain motions, as expansion, contraction, vibrations, frictions, grating, crepitation, are also determined by palpation. The natural fremitus or thrill perceptible on placing the hand on the chest when a person speaks is increased or diminished in disease. Fluctuation is a sensation caused by tapping on or percussing parts in such a way as to cause an agitation or wave of their fluid contents.

MENSURATION.—This is another valuable mode of examination, and consists in measuring the distance between any two points by a graduated tape. For measuring either side of the chest or abdomen, a spinous process of the vertebræ should be selected as a fixed point, and the middle of the sternum or umbilicus for the other. The exact level of the measurement should be carefully noted and an allowance of from one and a half to two and a half inches made for the right side, or for the left if a left-handed individual, and in case of a blacksmith even a little more. The pressure of the corsets in ladies enlarges the thoracic but diminishes the abdominal movements. In ascertaining the circular measurement of the chest and abdomen, the moment should be selected when the patient holds his breath at the time of an ordinary expiration, care being taken that the tape is carried evenly around the body.

Mensuration is valuable in detecting emphysema when the ribs bulge out; in hypertrophy of the heart; when the lungs are eaten away in phthisis; in enlargement of liver, spleen, and ovaries.

PERCUSSION.—Percussion is best performed by spreading the fingers of the left hand not too widely apart transversely across the ribs and tapping on them with the right—the bare hand on the naked chest or some very thin intervening body, the patient either sitting or in the recumbent posture. The object is to ascertain the resistance and size of organs. The sounds elicited by percussion or beating arise from the vibrations occasioned in the solid texture of the organs percussed. The different density and elasticity of organs modify the number and continuance of the vibrations, and give rise to different sounds. For the sake of simplicity all the sound obtained by percussion may be embraced under three heads, and these three sounds are dependent on the organs containing air, or on their containing fluid, or on their being formed out of dense solid tissue. These sounds or tones may be termed the *resonant, humoral,* and *parenchymatous;* resonant over organs that contain air, humoral over organs that contain water, and a dull, flat sound over solid organs. To become thoroughly familiar with these three sounds takes a little time and close attention. The sense of resistance is an important consideration in percussion; it bears a relation to the density of the object struck; thus firm and solid organs or textures suffer more resistance than the soft or elastic ones. The ribs and entire thorax of a child are very elastic; those of an adult, when ossification is complete, very unyielding.

Before percussing a person affected with disease, the operator should have a clear and accurate knowledge of the limits and intensity of clearness or resonance, or of dullness of the entire thoracic and abdominal viscera. For example, the lungs from top to bottom on both sides are resonant on percussion in health, reserving four square inches of dullness on the left side below the nipple for the heart and a variation at the base of the right lung for an enlarged liver, and of the left for an enlarged spleen, of an inch or more from the verge of the ribs. Over a healthy lung, then, there is perfect resonance; but suppose the lungs are invaded by tubercle, this disease germ like all others selects the weakest parts for its deposit and growth, which in ordinary cases is the apex of the left lung, or the apexes of both lungs, depositing itself at the uppermost point and grow-

ing and being deposited from above downwards. In such a case there would be dullness more or less, and the intercostal movement of the ribs would be arrested. There is one exception to the above: if the patient was suffering from irritation of the liver, the branches of the eighth pair of nerves that cover the upper lobe of the right lung might be so weakened as to permit passive congestion, and dullness on percussion would be found. This only happens when the integrity of that nerve is weakened and all the blood-vessels it supplies thereby relaxed. There is scarcely any stage of deposit of tubercle in the apexes of the lung that fails to be detected by percussion; whereas when inflammation takes place it almost invariably begins in the large aerating surface of the lower lobe of the right, which is abundantly supplied with the sympathetic nerve, and it may proceed up the same lung or pass over to the left. Perhaps the only exception to the rule of dullness at the base would be in the closing stage of melituria or diabetes, when tubercle is thrown out at the base. As a general rule, then, congestive consolidation, the result of inflammation, begins at base. In some cases of tuberculosis, right in the centre of a lobe weakened by some irritation there may be an encysted mass of tubercle as large or even larger than the closed fist, and both apex and base clear on percussion. This mass may remain, or it may die and be expectorated, leaving a chasm or cavity or cavern in the lung, in which an undue resonance can be detected and mapped out. An undue resonance or a tympanitic sound may then be due to a cavity left vacant by expectorated tubercle, or it may be due to a dilatation of the air cells into pouches, or to infiltration of air at the abrupt angles or corners of the lung which is present in emphysema. A lobe or an entire lung may ulcerate away in consumption, giving rise to this sound on percussion, in which case there would naturally be a collapse of the ribs, whereas in emphysema there would be more of a bulging.

Water may be effused into the cavity of the chest, the result of pleurisy, an obstruction about the heart, and can be readily ascertained by first percussing the chest of the patient when lying down, in which position the water, if there is any, in the cavity of the chest will gravitate to the back and the lungs will float, when the chest will be found clear from the top to bottom; then sitting up, the dullness, if there is water, can be detected and its height marked.

The diagnosis of affections of the heart constitutes the most

difficult in the art of medicine. Any increase or diminution in size can be readily appreciated and detected. Its size varies with the individual; four square inches or the size of the closed fist is reckoned normal, but in effusions from the pericardium which are so common in chronic rheumatism, the area of dullness is increased to a greater or less extent.

In hypertrophy there is often a vast increase, so much so that dullness is great; there is a bulging to a considerable extent. In percussing the solid organs like the liver, great care is necessary to carefully map out its boundaries; the superior margin is generally found from one to two inches above the margin of the ribs, while its inferior boundaries extend to a considerable distance. Variations in the size of the liver are great in our climate, extending from simple congestion, inflammation, induration, enlargement, abscess, hydatids, tumors. down to wasting or atrophy, and all can often be detected by percussion. In aggravated jaundice, as a symptom of organic disease of the liver, the increase or diminution in size of the organ will bear a proportion to the disease. If the gall-bladder is distended by bile or gall-stones, it is easily detected by percussion, and the dullness under the inferior margin of the liver, anteriorly and somewhat laterally, may be marked out. The size of the spleen is four inches long and three inches wide. In diseased states it is either enlarged or atrophied. In percussing this organ the patient should be on the right side. The sounds elicited on percussion of the stomach, bowels, bladder, are of great value in determining the size and position of other organs, as liver and spleen, also in locating tumors, and effusion of fluids. In dropsy of the abdomen the swelling is equable. On percussing the abdomen with fingers of the right hand with the fingers spread of the left, their points resting on the opposite side of the abdomen, patient standing, a wave, undulation or fluctuation, can be detected very easily, and if not satisfactory empty the bowels with oil, and put the patient in a recumbent posture; bowels being empty will float on the top of the water, as the water has gravitated to the back; then the standing posture should be again tried. A correct appreciation of the state of the bladder is also obtained by percussion. In percussing the kidneys turn patient over flat on the abdomen, so as to get a clear appreciation of the renal organs.

AUSCULTATION.—This consists in applying the ear either directly or through a stethoscope to the chest, abdomen, or

other parts of the body, to listen to sounds or murmurs. Its object is to ascertain and appreciate sounds and their nature, and its utility is limited to the pulmonary and circulatory organs. Before resorting to this method of diagnosis, it is well to refresh the memory with what exists in health. If we place the ear over the larynx and trachea of a healthy adult male, we hear two sounds or noises, one accompanying inspiration, the other expiration: they are called the laryngeal and tracheal sounds or murmurs. Move the ear to the right or left of the sternum, and you will hear the same sounds, only diminished in intensity; these are now called the bronchial sounds or murmurs. Place the ear under the nipple of the right side and two fine murmurs will be detected, normal vesicular respiratory murmurs. Keep the ear at the same place and cause the patient to count one, two, three, and so on, and there will be a peculiar impetus or sound of the voice called pectoriloquy or bronchophony.

With regard to these healthy sounds, it must be borne in mind that vocal resonance originates in the larynx and diminishes or increases from the point or source of the sound, modified by the textures in transmitting it. In all morbid states of the lungs these natural sounds are altered and new or abnormal sounds are developed. The alterations of the natural sounds in diseased conditions may consist in their being increased, diminished, absent, or location changed; the most common change is in intensity, often stronger or weaker, indicating increased or diminished action. They may be altered in character, the sounds becoming harsh as in pneumonia, cavernous when a cavern exists in the lung in consumption, amphoric pneumothorax. There may also be an alteration in position; that is, sounds which are natural to certain parts of the chest are heard distinctly at other places whereas in health they were never detected. For instance, in pneumonia, bronchial or tubular breathing may be evident when only a vesicular murmur ought to exist.

The inspiration in health is three times as long as the expiration, but in certain diseased conditions this relation is altered or inverted. For all practical purposes all the abnormal sounds may be classed under three heads: First, rubbing or friction sounds. Second, moist rattles. Third, vibrating murmurs.

Besides these there may be whistling, blowing, cooing, rasping and other râles or rattles caused by different impediments, mechanical obstruction.

1. RUBBING OR FRICTION SOUND.—This is caused by an irritation, inflammation, an effusion of serum in serous membranes which elevates the membrane into little blebs or blisters the size of a pin-point or head of a pin. It is a condition that we find after death an irritation of the membranes of the brain, peritoneum, pericardium, and pleura. In acute pleurisy about four or five days from rigor it can be very distinctly heard immediately over the site or location of the stitch or catch. On putting the ear to the place, we hear a rubbing like two pieces of brown paper being rubbed against each other. In health the pleura of the lungs and the pleura of the ribs are smooth, silky, finely lubricated; but when a partial death takes place, this effusion occurs with other symptoms of inflammation; they become dry, rasping, grating, and we may hear any degree of friction noise. The sound may be altered in various ways; the stage of inflammation modifies it greatly. Although most distinct in pleurisy, we also hear it very finely in all forms of pericarditis.

2. MOIST RATTLES.—When serum, or mucus, or muco-purulent matter, or liquor sanguinis, or blood is effused into the bronchi, the air in the act of inspiration and expiration is forced down and then up through them, which causes a bubbling or rattling or crepitating which can be distinctly heard by the ear and often felt by the hand. A large number of names are applied to this, but in all cases there must be a fluid to the moist rattle, so fine in some cases as to be scarcely audible (crepitaing); so coarse as to resemble a gurgling or splashing (cavernous); and between these two grades medical experts enumerate a large numer of râles or rattles, as mucous, submucous, subcrepitating. For all practical purposes, just adhere to the term moist rattles. These are present in bronchitis, pneumonia, phthisis.

3. DRY, VIBRATING MURMUR.—The wheezing or vibrating murmur is chiefly brought about by an irritation of the nerves that supply the circular muscular fibres of the bronchi, causing a contraction. We have excellent examples in asthma, whooping cough, and emphysema, and in some cardiac diseases. There is a true condition of spasm, obstruction, loss of tone and elasticity in the bronchi, whereby the vibrations into which they are thrown by the column of air produce tones of an abnormal character. The murmur is usually dry, and the fineness or coarseness of the sound will depend on the calibre of the tube or tubes of cavity thrown into vibration. Murmurs may exist from a fine squeaking to a hoarse snoring.

THE HEART IN HEALTH AND DISEASE.—In placing the ear to the heart, we should pay attention to the impulse, to the character and rhythm of the sounds, to the place they are heard loudest, and the direction in which they are propagated.

First find the spot where the apex of the heart beats or strikes against the walls of the chest, then listen to the sounds; place the ear two and one-half inches above, a little inward, and listen to the sounds there; in the first position, where the apex strikes the chest we have the systolic sound, and two and one-half inches above the diastolic sound.

There are two sounds, then, heard over the region of the heart. The first is dull, deep, more prolonged than the second, coincides with the shock of the apex of the heart against the thorax and immediately precedes the radial pulse; it has its maximum intensity over the apex of the heart below and inside of the left nipple. The second sound is sharper, shorter, more superficial, has its maximum of intensity two and one-half inches above the other, and there is a gurgle in it. These sounds have received the names, systolic (contraction), and diastolic (dilatation), the former when the apex strikes the ribs in contracting, the other in opening to receive the blood. The two sounds are repeated in couples. First, there is the long dull sound, coinciding with the contraction of the heart. Second, there is a pause. Third, the short, sharp sound. Fourth, a longer pause; all of which correspond to one pulsation.

With the systolic (contraction) sound we have the striking of the apex against the chest-walls, then contraction of the ventricles, then rushing of the blood through the aortic orifices, followed by flapping of the auriculo-ventricular valves.

With the diastolic (dilating) sound, we have the rushing of the blood through the auriculo-ventricular valves and flapping together of the aortic valves.

In disease, there may be a modification of the sounds heard in health, or there may be new and abnormal sounds developed. The modifications of healthy sounds are variations in their seat, intensity, extent, character, and rhythm.

For example, the sounds may be heard at their maximum intensity lower than the natural point in cases of dilated hypertrophy of the left ventricle, enlargement of the auricles, or tumors at the base depressing the organ. They may be higher, owing to some abnormal swelling, or more on one side than another by effusions of air or fluid into the pleural cavity, or tumors, aneurisms, deformity.

The intensity and extent of the sounds may be diminished in atrophy, in fatty heart, nervous insufficiency—when there is a pericardial effusion, concentric atrophy of left ventricle, or emphysema. The intensity and extent of the sounds are increased in cases of dilated hypertrophy, nervous palpitation, or when the adjacent parts of the lung are indurated by effusion in inflammation, or tubercular deposit in phthisis. The character of the sounds may be clearer or duller than in health, according as the walls of the heart are thinner or thicker. The sounds are muffled in cases where effusion has taken place into the pericardium. Sometimes they are rough when due to inflammatory changes.

The frequency of pulsations varies in different affections. In certain diseased conditions the beats may be intermittent, or there may be pauses, or they may be irregular. There may be a variation in sound, an insufficiency of action, in other cases it may be irregular. There may be a variation in sound: a want of harmony in the occurrence of the two sounds, one faint the other tumultuous.

All the diseased sounds of the heart may be classed under two heads. First, friction murmurs. Second, blowing or vibrating murmurs. The friction-sounds are due to inflammation. The vibrating murmurs depend on some organic change, generally the result of inflammation. These murmurs vary in character from a general blowing or puff as if from the nozzle of a bellows (bellows murmur), while others are harsher, grating, or sawing, but all caused by diseased condition of the valves. Sometimes the valves do not close, and as a result the blood regurgitates through them; in some cases the valves are constricted, shriveled, indurated, roughened, calcareous. The diseased sounds may be single or double, and have their origin either in the auriculo-ventricular or arterial valves, or in both. These sounds often resemble musical notes; more or less resembling the cooing of a dove, singing, whistling; all depending upon some excessive narrowing of the orifices, perforation of the valves, irregularities in their margins, or exudations or deposits on their surface.

Not infrequently a soft systolic blowing is audible at the base of the heart, or over the carotids and deep jugular vein; sometimes it is continuous, resembling the humming of a top. These murmurs, which are so common in poor blood, are easily distinguished from valvular ones by being systolic, by their softness, and by their presence when the substance of the

heart is imperfectly nourished. On listening over the arteries in the vicinity of the heart, the same sounds can be detected.

In peritonitis, the friction sound is often heard, and sometimes a grating. Various sounds are heard in the bowels, etc.

Auscultation, percussion, and other means of diagnosis are not to be depended on alone; they are simply aids, modes, or means of reaching an end, and should be strengthened by observation of the pulse, tongue, skin, heat, temperament, urine, and other means of a definite character.

THE PULSE.—The pulse at birth averages 130 per minute. There is a gradual decline till puberty, when it reaches its permanent standard, from seventy-five to eighty. From fifty-five years of age upwards there is a gradual decline, so that in old age it ranges about sixty. In persons of a sanguine temperament it is about five or six faster than the bilious. In females it averages ten beats more than in males. The recumbent posture causes a lowering of the pulse of about eight or more beats per minute. The pulse being the sign of this or that disease, is also the sign of non-existence of special activities, of strength and weakness, of irritation and relaxation of certain tissues. The more frequent the pulse, the greater the heat; the more rapid the respiration, the greater microbial evolution (ptomains), excretion, the weaker the patient.

Frequency is the characteristic of all fevers and inflammations.

In acute rheumatism, frequent but remarkably full.

In all acute inflammatory diseases, firm.

In all abdominal inflammations, small, wiry, and frequent.

In fevers proper, large and soft, or small and feeble, but frequent.

In aortic regurgitation, hammering.

In hemorrhage, jerking.

In old age and in all conditions of arterial degeneration, hard and incompressible.

In excitement, rapidity and shortness of stroke.

In all acute inflammations of the brain, remarkable for its great frequency.

In cerebral disease, very unequal and depressed.

If there is pressure on the brain, slow and labored.

In disease of the heart, irregular.

In aortic regurgitation, although hammering, it is remarkably faint and feeble.

In syncope and cholera, imperceptible.

In all conditions of prostration, more or less faint. Scarcely perceptible in great exhaustion.

A full pulse may be due to one of three factors: powerful ventricular contractions, loss of elasticity of the arterial wall, and interference with the blood flow from the arteries into the capillaries.

The pulse wave propagated from the heart, outwards towards the periphery, may not arrive at the two wrists synchronously, due to aneurisms of the aortic arch.

The character of the pulse varies in different ways. It will be sufficient for ordinary purposes to notice the following points: The expansion of the pulse, a pulse which reaches its full expansion quickly, and as rapidly collapses again, giving to the finger a very quick stroke, aortic incompetence. The opposite condition, *pulsus tardis,* is distinguished by the slow manner in which the artery fills and empties, and this sluggishness may be due to slowness in the contractions of the heart, to a hindrance in the capillary and venous circulation, to a loss of elasticity in the arterial wall itself, generally met with in arterial sclerosis.

When disease affects origin of subclavian, pulse only found on one side.

In all conditions of depressed vital force, frequent, unless there exists some mechanical impediment like emphysema.

Pauses in the pulse, or an intermittent pulse, depend either upon disease of the brain or heart.

Pauses in the pulse, still not quite intermitting, are often present in the users of tobacco, the nicotene affecting base of the brain.

THE TONGUE.—The tongue is an excellent index of the state of the stomach and bowels; it often indicates the state of blood and brain. A map of the empire of diseases, its form varies much in shape. Swollen in inflamation or from the germs of variola, scarlet-fever, abuse of mercury.

The motor innervation of the tongue is through the hypoglossal nerve; spasms of the tongue present in chorea, eclampsia, epilepsia.

A heavy white coat, with or without elevated papillæ, gastric derangement.

A brown coat in centre and white at sides, derangement of stomach and liver.

A very dark brown, gingerbread, or even a liquorice aspect, malignant bilious fever, or typhus.

A charcoal hue at root indicates blood-poisoning.

A fur on tongue, catarrh of the stomach.

Transverse fissures on the tongue, intestinal irritation.

Longitudinal tracks, irritation of the kidneys.

Sharp pointed tongue, nervous irritation.

A large flabby tongue, glandular disease.

A smooth, raw-beef tongue, acute inflammation of the stomach.

Red tip and edges, sharp-pointed, with white coat, or fur or other coat in centre, chronic inflammation of the stomach.

A large, flabby, tremulous, creamy tongue, delirium tremens.

Tremulous, and patient thrusts or darts it out, in chorea.

Buff coat, like new leather, very dry, sharp-pointed, or it may be patchy, or papillæ elevated, typhoid fever.

Peculiar buff leather appearance in enteritis.

Thick coating, white or brown, malassimilation. Aphthæ, or ulceration in patches, malnutrition very great, so as to cause degradation of healthy living matter into micro-organisms; if very patchy the irritation may be deep.

Strawberry tongue, perhaps surface slightly coated in streaks, papillæ projecting greatly, is characteristic of scarlatina.

In hysteria, tongue often morbidly red, moist, with or without a coat.

Extreme dryness, diabetes.

The tongue is shining, glazed, or chapped in ulceration of the bowels. Warts on edges near root indicative of syphilis.

Tongue thickly furred, dirty white or brownish white, without either unusual dryness, enlargement, or redness, indicates that the derangement involves rather the lining membrane than the nerves of the stomach, and that not to a serious extent. The derangement is comparatively recent, and easily remediable.

Tongue furred with shiny matter, with vivid red tip and margins, indicates also an affection of the lining membrane, but of a more serious and continuous character.

Yellow tongue, qualified by one or more of the last-stated conditions, indicates the liver as implicated.

Clean tongue, of bright redness, naturally moist, but with the papillæ unnaturally prominent, indicates that the derangement affects the nerves of the stomach and is of recent date.

Dry, red, glazed tongue represents a similar affection to the last, but more severe and of longer standing. Swollen, red

tongue, with white fur, represents such a degree of nervous derangement of the digestive organs as to react congestively upon the brain, and implicate that organ. Cracked, furrowed, fissured, swollen tongue indicates a severe derangement of the nerves of the stomach. Swollen tongue, thinly coated, white, but bright red at the tip and margins, indicates a complication of both varieties of indigestion—that of the lining membrane, and that of the nerves of the stomach, of old standing, and of an obstinate character. We may look for irregular operations of the brain, as associated with the symptom, as well as extreme despondency, nervous irritability, and depression of spirits.

Tongue indented on either side is a modification of the swollen tongue, already mentioned as associated with derangement of the nerves of the stomach. Tremulous tongue, or tongue-trembling when protruded, common among habitual drunkards, distinctly indicates a complex variety of the nervous form of indigestion, implicating the spinal marrow. Blackish, dry, furred, and tremulous tongue is a severe symptom in abdominal or putrid typhus.

Tongue drawn to one side, effusion upon base of the brain of the opposite side. Red like a piece of raw beef, with a dark hue at the root, gastro-peritonitis.

Microbes gather upon the tongue in all germ diseases, as in the incrustation of typhoid, the germs are matted together.

THE SKIN.—Hot and cold alternately in the entire skin or a part of it indicates nervous depression.

Peculiarly thin and easily raised from the subcutaneous tissue in consumption and wasting diseases.

A feeling of fullness and tension in the eruptive fevers, amounting to even a sense of hardness in erysipelas, and a gritty feel in smallpox.

The nails are clubbed and hair falls off, in tubercular disease. Loss of hair is common in the convalescing from fevers and in syphilis.

The skin is dry, harsh, in children suffering from tubercular disease.

Remarkably moist, soft, doughy, in delirium tremens.

Pallor is due to defective filling of the capillaries, due to indigestion, anemia.

Perspiration is sour in rheumatism, also in diseases attendant on malassimilation; and excessive perspiration of any kind may be accompanied with small blisters on the skin, sudamina.

Profuse drenching or colliquative sweats indicate great debility or exhaustion, as in lung-consumption or profuse suppuration.

A rigor or chill indicates nervous depression, and either foreshadows a fever or formation of an abscess.

Rigor, with the cutis anserina or plucked goose-skin, denotes the presence of the malarial micro-organism irritating the microscopical nerves of the skin, causing the muscles to contract in two different directions, thus creating a puckering.

Rigor occurring during the progress of inflammation indicates the formation of pus.

Jaundice, or yellow discoloration, disease of the liver, absorption of bile.

The crackling feel of emphysema is very characteristic, as is also the doughy character and pitting under pressure of anasarca.

Protuberant eyeballs, wasting disease.

THE APPETITE.—Becomes excessive in diabetes.

Craving in mesenteric disease. When intestinal worms are present, variable and capricious.

In hysteria or anemia of spinal cord, morbid, craving chalk or other alkaline substances.

In pregnancy, very fanciful, longing for articles of food usually abnormal.

In dyspepsia, variously altered.

THIRST.—A central origin in the brain or medulla must be assigned to thirst analogous to the sensation of want of breath, or air hunger. The sensation is peripheral, due to the excitation of nerves in mouth and throat, which pass from the centre.

In diabetes it is remarkably increased.

In cholera very urgent.

In diarrhea urgent, but less so than in cholera.

Diuresis with uncommon thirst, when there is no sugar in the urine, generally due to anemia of cord or hysteria; not attended with hunger, urine of very low specific gravity.

Generally increased in all fevers.

THE SALIVA.—1. The quantity of saliva in mild febrile diseases is increased and its ferment action unchanged.

2. In severe febrile diseases the quantity of saliva is decidedly lowered and is amylolytic action increased, the ferment evidently being secreted in a saturated condition. The salivary quantity is lessened as the amylolytic action is increased, but there results quite an important lowering of the total ferment.

3. After the crisis the quantity as well as the ferment power of the saliva is reduced.

4. In acute, long-lasting febrile diseases the quantity of saliva is not infrequently normal, but its amylolytic action is subnormal.

5. In pulmonary tuberculosis, even in severe cases, the quantity of the saliva is not lowered, and its ferment action is normal. Not until a few days before death is the quantity lowered, but even then the ferment action remains unchanged.

6. In chronic nephritis the salivary quantity is diminished and its amylolytic action not seldom subnormal.

7. In ascites the quantity of saliva is lessened, while the ferment action suffers but little change.

8. In long-lasting, debilitating diseases, such as scurvy, Addison's disease, and diabetes, the total ferment power is often diminished.

Mosler found the diastatic power of the acid saliva of diabetes not decreased, but very strong.

The results here given comprise the greater part of the work relating to the ferment value of the saliva in pathologic conditions.

The observations of Jawein, that the diastatic power of the saliva is not infrequently diminished in long-lasting, debilitating diseases, together with the fact that the various secretions of the body are altered, and that the glandular functions and tissues in general are changed, and the occurrence of sialorrhea and sialaporia in the various anemias, have led me to study the ferment power of the saliva in these conditions.

ALTERATIONS OF COLOR.—In anemia the skin is remarkable for its paleness; in chlorosis, for its greenness.

In dropsy, from albuminuria, the skin is not only pale but white.

In nervous irritation, often of a marbly whiteness.

In phlegmasia dolens, where there is inflammation of veins and coagulation of their contents, the skin is as white as snow.

There is a dingy yellow hue in cancer which is easily distinguished by the pearly lustre of the eyes.

The yellowness of jaundice varies from a pale to a deep green yellow and saffron color.

Redness of the skin, when local, indicates congestion; when general it may be due to erythema, measles, scarlatina, heat, or erysipelas. Redness in gout or rheumatism is usually local.

In diseases of the spleen and lymphatics, whiteness and pal-

lor; but when the blood is not greatly affected, it may be of a muddy hue.

In cholera morbus and malignant cholera, blue; in non-aeration of blood, in pneumonia, bronchitis, diseases of heart, cyanosis, blue, especially the lips, neck, ears, nails, face, etc. Lividity might be applied to it instead of blueness, but this term is applied to incipient gangrene.

Spots, patches of discoloration, valuable in the recognition of certain fevers, purpura, scurvy, lead-poisoning, syphilis, and cutaneous disease.

In disease of the suprarenal capsule, bronzed.

In a well-marked case of malarial fever blueness may be looked for.

The skin is of a peculiar uriniferous color and odor in uremia.

Purple spots or patches in purpura and scurvy.

The pallor of anemia and the greenish waxy hue of chlorosis are never to be confounded with the pasty hue of kidney disease. The puffy appearance about the eyelids with anemia is an indication of albuminuria.

The sallow hue of malignant disease is but another form of anemia.

In diseases of the heart and chronic bronchitis, the blue, livid, or slate color of the nose and lips is remarkable, and contrasts strikingly with the dusky hue of pneumonia or the hectic flush of phthisis.

In measles and typhus fever, suffused eyes are exceedingly characteristic.

Irregular habits of living, generally indicated by a bloated, blotched face.

In erysipelas, mumps, facial paralysis, the face undergoes remarkable changes.

The pallid face and lips, the anxious look, the restless eye, tell, even before the finger is put upon the pulse, of the loss of blood. The pinched nose, the sunken eyes, ashy-colored countenance, with perhaps beads of sweat upon it, speak suffering or pronounced sepsis. The pale face of chlorosis; the puffy, waxy, countenance of Bright's disease; the bloated, heavy look of myxedema are not less characteristic than the bronzed hue of Addison's disease, the prominence of the eyeballs of Graves' disease, or the yellow tint of jaundice. In nasopharyngeal adenoids there are a seeming prominence and puffiness of the cheeks and the nasal bones, which cause heavy, sunken eyes.

Extreme pollor or paleness may signify anemia, syncope, leukocythemia, dropsy, nausea, etc. The size of the face is often very considerably altered in disease. As a result of gout we have the ruddy appearance of blooming health, which, when associated with high tension in the arteries, is highly suggestive of chronic nephritis. Inspection is even more important in the case of children. Pain in the head is indicated by contraction of the eyebrows; in the chest, by sharpness of the nostrils; in the belly, by drawing of the upper lip. In abdominal colic, screaming is intermittent.

SENSATIONS.—Flashes of heat and coldness are peculiar to nervous derangement.

An aura epileptica consists in a sensation of some kind; it may be like a gust of air on the side of neck and head, or a creeping up the arm or leg, or cold water running down the back, a feeling of insects in the skin, etc.

A sensation of pins and needles, or a pricking sensation, is peculiar to paralysis.

There is a great contrast between the external coldness of the body and the sensation of internal heat by which the patient is oppressed. In diarrhea there is often chilliness.

The heat of fever is often remarkable.

The sensations of a hypochondriac or hysterical patient are often opposed to the evidence of the senses and good reason.

A patient's complaint of want of sleep is sure to be exaggerated. The attendant's statement alone should be relied on.

The sympathetic or reflex pains are important. Pain in the right shoulder is indicative of disease of the liver. Pain in the sacrum, of inflammation of the uterus. In the knee, of inflammation of the hip-joint, of the meatus, of stone in the bladder. At the orifice of the urethra, with aching in the thigh and retraction of testicle or irritation of the ovary, irritation of the kidney. In the cerebellum, of exhaustion of the lumbar portion of the spinal cord. A feeling as if scalp was rising, indicates irritation of the pneumogastric nerve. Drowsy, sleep sensation, or coma, may be due to bile or urea in the blood.

Pain anterior or posterior over either chest or abdomen denotes carcinoma.

Pain in the crown of the head, chronic inflammation of the womb.

EMACIATION SEEMS TO AFFECT, in phthisis, the arms and thorax most, face least.

In abdominal disease, the lower limbs and face.

In disease of pancreas there is remarkable emaciation.

Increase of bulk often becomes remarkable in dropsy, say of the abdomen, of a limb, or of the head. It may rise from an internal or an external tumor.

A delicate appearance, with long fringed eyelashes, points out the tubercular diathesis.

The thickened alæ of the nose and upper lip of tubercular disease are most marked in childhood.

POSTURE AND GAIT.—Inability to stand depends on weakness, vertigo, paralysis.

In weakness and vertigo the patient reclines, in paralysis he sits.

In curvature of the spine and diseases of the hip the body is bent to one side.

In excitement the gait is quick.

In debility, slow.

In disease of the brain and paralysis, labored, staggering, uneven.

In rheumatism and disease of joints, stiff, halting.

In chorea, constant, involuntary moving.

In nervousness, tremor, and more especially in delirium tremens, regular shaking like shaking palsy.

Tonic spasm occurs in tetanus, disease of the spinal cord, poisoning with strychnine.

Catalepsy is a peculiar form of tonic spasm; cramp is its mildest manifestation.

Clonic spasm occurs in epilepsy, chorea, and hysteria; subsultus is also a form of clonic spasm allied to tremor.

In mania and delirium tremens the muscular movements are exalted.

The muscular movements are generally diminished in idiocy and imbecility and in paralysis. A certain restlessness belong to hypochondriacs and more rarely to hysteria, allying them with delirium in the external manifestation.

POSITION.—Head chiefly elevated in disease connected with the heart, less frequently in disease connected with the lungs.

Head bent forward when there is pressure on the trachea.

Patient may be unable to lie down from pain of head or giddiness.

Lying on the back is the position of debility; also position for paralysis when combined with inability to alter it; also in acute rheumatism. Same position assumed in acute gastritis, peritonitis, metritis, cystitis, with head and shoulders elevated and knees drawn up toward the abdomen.

A prone position is generally assumed in abdominal spasm or colic.

A doubled-up position, with or without vomiting, is present in colic, the passage of gall-stone or calculi through the ureter.

EXPRESSION.—In disease of the heart, and in urgent dyspnea, acute laryngitis, the face is remarkably anxious and contracted.

When there is much pain in a vital organ, the face is pinched and contracted.

Immobility most remarkable in catalepsy, or in states of unconsciousness and under the influence of spasm and in tetanus.

In nervous disease and hysteria, the opposite state exists.

By the swelling of erysipelas the face is materially altered.

FACIAL APPEARANCES.—A retreating chin shows lack of force, mentally, morally, and physically; usually of the sweet, yielding sort; soon discouraged; desires protection; small executive force. The development of other faculties often makes up for this defect.

A small, well-rounded chin, with mobile and red cushion of flesh upon, indicates a pleasure-loving owner. If dimpled, all the more so, for dimpled chins belong to coquets. People with dimples love to be petted and loved; like admiration and praise. Generally fickle. Usually this chin is healthy, recuperative, and long-lived.

Broad chins signify nobleness and large dignity, unless vertically thin, when, if with it there be thin lips of bloodless kind, you find cruelty.

Square chins with little flesh denote firmness and executive ability. These make good haters.

Drunkards usually have a circular line about their chins.

Slovens have wrinkles about their chins.

Long thin chins are poetical, unstable, and delicate in constitution. Such people are subject to bowel derangements. If thin through the angles of the mouth, too, they are prone to tuberculosis. Generally short-lived.

Medium chins with a suggestive bifurcation in the centre, with small mounds of flesh on either side, characterize generosity, impulsiveness, cheery natures. (The same sized chins, with a dab of flesh just under the centre of lower lip, indicate meanness, selfishness, brutality).

As a matter of fact, however, no one feature can be taken in judging character. Often development of other faculties of mind or feature entirely governs. In each case take the "totality of indications" before judging.

CHARACTER OF THE STOOLS.—Digestion during the day in stomach. During the eight hours of sleep is carried on in the bowels, and the peristaltic wave is started in the act of masticating breakfast. The entire ingesta is emptied into the rectum, so one defecation in the twenty-four hours. Any deviation from the rule is disease; more frequent diarrhea, less frequent constipation.

Watery, mucous diarrhea.

Undigested food in stools show that stomach, liver, pancreas, are at fault; if fat is passed, the latter.

Very solid and retained longer than twenty-four hours, constipation.

In typhoid fever, like pea-soup.

In cholera, like rice-water.

In acute dysentery, blood, mucus, pus.

In chronic dysentery, mucopurulent discharge.

When an internal abscess bursts into intestinal canal, pure pus.

When black, the stools are likely to contain blood.

In piles or hemorrhage low down in bowel, blood of a natural color.

In deficiency of bile they are clay-colored; in excess very dark brown.

When fermentation supplants digestion, frothy, yeasty.

Enlargement of prostate causes the stools to be flattened like a ribbon.

In stricture of the rectum, cut or chopped into flattened pieces.

In disease of the pancreas, there is fat or oil-globules in the stools.

Green, resembling chopped spinach in color, irritation of brain.

In intestinal catarrh, stools mixed with mucus.

Stools imbedded in mucus, an affection of the colon.

The evacuation of pure mucus from the bowel without any admixture of feces points to catarrh of the rectum. When firm feces are passed, completely enveloped in mucus, we may conclude that the morbid process affects the lower part of the colon and rectum. The admixture of mucus with the feces in abnormal quantity is not always apparent to the naked eye.

It often happens that when the feculent matter is examined microscopically there are found scattered intimately through it small masses of mucus, which are whitish-gray, hyaline and

transparent. This peculiar admixture of mucus indicates that the catarrhal affection is limited to the upper portion of the large intestine (and possibly, the small intestine), while the rectum and descending colon are free from disease. When the stools contain small masses of mucus tinged yellow with bile pigment, we may conclude that the small intestine has become affected. In normal feces, the reaction which is characteristic of bile pigment cannot be obtained; but when, from whatever cause, the peristaltic action of the small intestine is increased, this characteristic play of colors will be seen on the addition of nitric acid.

CHARACTER OF THE NAILS.—Clubbed or filbert-shaped nails in phthisis pulmonalis.

In gout, reedy, brittle; rot, black in great nerve shock.

Suppuration of the nail bed in children, due to inherited syphilis in the parents.

In leprosy, broken up, fibrous, much thickened, lifted up by the formation of epidermis, scales in the nail bed, no smooth surface to be seen on any of them.

The onyx of the nail copper-colored, syphilis.

A distinct transverse ridge, acute disease, like typhoid.

RESPIRATION.—The normal pulse divided by four gives the number of respirations per minute, provided there is no disease of the brain, lungs, or heart. Number of respirations at various ages per minute: First year, 35; second year, 25; at puberty, 20; adult age, 18; old age, 15 to 16. Most frequent in inflammations and fevers.

Pauses in respiration, cerebral or cardiac disease.

Stertorous, labored, with deep sleep, in inflammation of brain, apoplexy, congestive fevers, as typhus.

Imperceptible in collapse, cholera. Very embarrassed in cardiac and bronchial disease.

Hurried or excited respirations are common in nervous excitement, hysteria.

The odor of the breath is often signficant. It has a chloroform odor in melituria, diabetes, and chronic alcoholism, when there is sugar in the blood.

Loud respiration under all conditions in which the air-cells are less permeable.

Feeble respiration may be produced by pleuritic effusion, adhesion of the lungs to the chest-walls or obstruction of air-passages.

Absence of respiration in catalepsy or great weakness. The

respiration is often grating, caused by thickening of the air-cells; grating and short in acute bronchitis and pulmonary congestion.

It is often tubular or blowing, which indicates induration or pulmonary condensation.

It is often cavernous or hollow upon the breaking up of cavities in the lung.

It is sometimes buzzing, which indicates a large cavity in the substance of the lung.

The rhoncus and sibilant râles are dry, sonorous, whistling, cooing, snoring, in inflammation of the bronchi.

The crepitating râle resembles the friction of the hair rubbed between the fingers; it is to be heard when resolution begins in pneumonia or bronchitis at the seat of congestion.

The subcrepitating is the ordinary moist rattle caused by air going down and up through a fluid—the density of the fluid modifying the sound.

TEMPERATURE.—The pulse at birth ranges from 130 to 140; respiration from 33 to 40; and animal heat from 102° to 103° F., from which period to puberty there is a gradual decline. From puberty to twenty-five the pulse reaches 70 or 80; respirations 18, and the temperature 98° F., at which they remain if in perfect health till between forty-five and fifty-five, when there is an appreciable decline. A rise is indicative of diminished vitality and ptomain excreta from disease germs, and the greater the rise the more aggravated the loss of vitality; and a continued depression, if persistent, is indicative of disease. Observations by the thermometer should be made morning and evening, and a due allowance made for the diminished electrical condition existing in the night, during which time the type of all diseases is much intensified, and labor, death, and other conditions are more likely to occur. In applying the thermometer the bulb should be placed under the tongue, mouth closer, or applied in the arm-pit, or to the groin or belly, and be retained in close contact with the skin and well covered and allowed to remain several minutes.

In all conditions of partial death, as in fever and inflammation, we have an elevation, whereas in collapse, emphysema, cholera, atrophy of the heart, etc., there is a remarkable decline. A rise to 103° to 105° is indicative of danger; above that almost invariably fatal. A lowering, if persistent, below 85°, unfavorable; a very sudden fall below that occurring in acute attack of peritonitis, etc., may indicate gangrene, or perforation of bowel in typhoid. During convalescence, a sudden

rise in temperature, pulse, and respiration may indicate a relapse.

We have no instrument superior to the index and adjoining finger for the pulse, and by the hand laid flat across the base of the chest the respirations can be easily counted.

If there is no disease of the brain proper, heart or lungs, there will be a perfect harmony existing between heat, pulse, and respirations. Pulse 72, divided by four, gives respirations 18 and heat 98° in health, with the rise or fall of each in disease.

ODORS.—The diagnosing of disease germs and their ptomains is of great importance. Most physicians can name the microbe at work the moment he enters the sick chamber. The microbe and its ptomain have a diagnostic odor in spite of frequent bathing, ventilation, cleanliness, and all sanitary precautions; the microbe in every case assails the nostrils of the medical attendant.

Measles, scarlet fever, and smallpox are easily recognized by the odor of their respective microbes. The patient will often recognize the dreadful smell of smallpox, and compare the odor of his skin to that which he first experienced in taking the disease.

The odors of typhoid fever and pneumonia are perceptible near the patient and in the room.

There is also a peculiar emanation in tuberculosis, in cancer, and syphilis, with odor of each microbe respectively diagnostic of each.

The odor of hydrosulphate of ammonia is always present in open cancer, and on that smell we place great reliance.

In spite of great cleanliness, the odor of the gonococcus is perceived at some distance.

The victim of masturbation has the odor of the ailanthus or dog-kennel—the microbe of this degraded bioplasm affects all weak persons in its proximity, hence its prevalence in prison-retreats.

The mousy smell of the streptococcus of erysipelas, carbuncle, and typhus fever is indescribable.

There are various odors from the lying-in chamber emanating from the patient—the usual odor of the lochia, that of the lacteal secretion, and that which indicates the approach of puerperal fever, the micrococcus active.

Many women emit a peculiar odor while menstruating, which resembles a mixture of blood and chloroform; others have peculiar odors from parts of the body.

A peculiar fecal smell is experienced from a lunatic or hypo-

chondriac, very nearly the same as is experienced from patients who suffer from habitual constipation.

The uriniferous odor of uremia emitted by persons suffering from diseased kidneys is all-important.

The comma-bacillus of malignant cholera can often be detected very early by the odor given out by the skin, breath, and stool.

The odor of the sick-room and of the body of the patient generally, the smell of the breath, the sputa, urine, feces, sweat, ulcers, are utilized for diagnosis and treatment.

The cadaverous odor is a peculiar earthy smell emitted from the body, sometimes as early as two weeks before death, in other cases a few days.

The smell of the streptococcus of diphtheria is pungent, and is never forgotten.

The chloroform odor of the glucose fungus in the breath in diabetes is most significant.

THE WEIGHT OF THE BODY.—The average weight of the body at birth is about seven and one-half pounds. We meet with cases frequently over twelve pounds and as low as two pounds in living children. But when the average male completes the twenty-fifth year of his age, growth has reached its maximum, but not weight. The general weight consistent with good health and stature should be as follows:

STATURE.	Mean Weight. Pounds.	Weight Increased 7 per cent. Pounds.
5 ft. 1 in	120	128
5 " 2 "	126	135
5 " 3 "	133	142
5 " 4 "	139	149
5 " 5 "	142	152
5 " 6 "	145	155
5 " 7 "	148	158
5 " 8 "	155	166
5 " 9 "	162	173
5 " 10 "	169	181
5 " 11 "	174	186
6 "	178	190

If greater than the allowed seven per cent it affects the vital capacity, and respiration becomes diminished. Clothes average about one-eighteenth of the weight of the body in autumn and early spring. Loss of weight is indicative of

phthisis, bronchitis, nervous dyspepsia, and other exhausting diseases.

CHARACTER OF THE URINE.—In hysteria, and anemia of the spinal cord, due to self-abuse, the urine is remarkably pale, limpid and abundant, with very low specific gravity—1006 or 1010.

In all fevers and inflammations it is scanty, high-colored, and loaded with uric acid, the result of excessive waste of tissue, which deposits on standing.

If very scanty and much acid, there is a very copious brick-dust deposit.

In disordered liver it gives a red stain to the vessel.

In jaundice, the presence of bile gives it a dark porter-color.

If blood is mixed with urine, it has a smoky color when acid; a pinkish hue when alkaline; quite crimson when much blood is passed.

The greatest amount of acid in urine is to be found in acute rheumatism or the uric acid diathesis. Urine, when it deposits a white, limy or calcareous matter, denotes nervous disease or the alkaline diathesis; if it contains pus there must be ulceration either in urethra, bladder, or kidneys.

In melituria or diabetes, urine very copious, increased beyond the amount of fluids taken, loaded with grape sugar, and usually of a very high specific gravity ranging from 1035 to 1065, but in rare cases it is very low and still sweet.

Healthy or unhealthy urine may have a peculiar aromatic smell, which may be affected by many articles of food or medicine, such as asparagus, garlic, cubebs, turpentine, copaiba.

Urine voided in the twenty-four hours in a man of average height free from disease, averages about thirty ounces in the summer and forty in the winter. It should weigh about fifteen per one thousand parts more than distilled water.

If the kidneys are weak it may be highly albuminous, which can be detected by boiling, which coagulates the albumin.

In disease of the brain it may be loaded with a white, floury substance, which can be precipitated by a solution of nitrate of silver.

ALBUMIN is found in the urine in conditions of weakness, irritation, and collapse of the kidney, and also in diseases of the blood, as anemia, purpura, and is easily detected by boiling the urine in a tube, when, if albumin be present, it will become milky or cloudy; then add a few drops of nitric acid, which will clear the urine and coagulate the albumin into a mass. Its quantity can also be ascertained in the same manner.

PHOSPHATES AND CHLORIDES represent waste of brain and bone, and are present to a certain extent in all urine, but are greatly in excess in all nervous diseases, as epilepsy, chorea, masturbation, paralysis, white softening of the brain, and other states. When very excessive they appear as a white cloud in urine, or in a copious white flour of gritty deposit in the bottom of the vessel.

They are easily detected and their quantity estimated by boiling an ounce of urine, and adding a solution of nitrate of silver in the proportion of sixty grains to the ounce of water, which will precipitate the entire amount of phosphates in the urine, when the excess must be deducted from the normal amount, which will indicate the condition of nerve-waste or nerve-tire or exhaustion present.

PUS is only present when there is suppuration in the kidney from a stone, or from ulceration of the bladder, or catarrh, or a gonorrhea, and is easily detected by boiling the urine and adding some liquor potassæ, which will coagulate the pus into a gelatinous mass, or by the addition of the peroxide of hydrogen to the urine, if pus be present effervescence will take place.

SUGAR.—If the urine does not indicate disease of the kidney, but rather of the liver, pancreas, or more especially of the coordinating chemical centre in the brain—in some cases to overfeeding, and for domestic purposes can be easily ascertained, if it exists, by placing the chamber with the newly evacuated urine in a warm place, keeping it at 80° F., and adding a teaspoonful or more of yeast, effervescence will soon take place, a brisk discharge of gas ensues, and a yellowish liquid is formed, which has the odor of beer, and by distillation yields an alcoholic liquid. The quantity of sugar present can be estimated, since every cubic inch of carbonic acid gas given off by fermentation corresponds to one grain of sugar, so that the quantity can be readily approximated.

BILE in the urine is likely to be present in disease of the liver, and it may be necessary to distinguish it from certain color principles as rhubarb and santonin. Dip a white rag into urine that contains bile; it is at once colored yellow. Pour a little urine on a sheet of writing paper to form a very thin layer and let one or two drops of nitric acid drop on it. If bile be present, green and pink colors will show themselves around the drop. This can be confirmed by mixing a little muriatic acid with the urine and then adding a few drops of nitric, and a change of colors, of yellowish-green, blue, violet, red occurs.

URIC ACID in excess represents rapid waste of the nitroge-

nous elements, as in fever and inflammation, but a supply of nitrogenized food greater than what is required for the repair of the tissues, such as excessive indulgence in animal food, too little bodily exercise, isolation, monotony, sameness, deficient aeration of the blood; and also an insufficiency of gastric juice is easily detected by the blue litmus paper being turned red by the brick-dust sediment to the chamber vessel.

MICROSCOPE.—A thorough knowledge of all the tissues of the body, its normal and abnormal secretions, is necessary for diagnosis with the microscope. An instrument of small power is the most useful, say from 250 to 300 diameters, one whose adjustment is easy, so that an object can be readily detected. It is of great utility to detect diseased germs in the secretions, especially in discharges or scrapings. For example, by scraping the tongue in all cases of malassimilation, we can see the *bacteria;* in typhoid fever, the *vibrios;* in diphtheria, *streptococcus;* in the discharge from the nose in catarrh, the *amœba;* in the urine, the germs of *cancer,* and in the sputum, those of *tubercle.* Most invaluable, and one which the unitiated in medical science can readily and at once appreciate.

VITAL CAPACITY OF LUNGS.—To test correctly it must be done by a spirometer, an instrument used to measure the volume of air expired from the lungs. Quantity expired after the most complete inspiration is the total volume of vital capacity. The vital capacity increases with stature, and is considerably affected by weight. The capacity to breathe is affected most by phthisis. The following table shows the capacity in health and in the three stages of pulmonary consumption:

CAPACITY IN HEALTH.		CAPACITY IN CONSUMPTION.		
Height.	Cubic Inches.	First Stage.	Second Stage.	Third Stage.
5 ft., 1 in.	174	117	99	82
5 " 2 "	182	122	102	86
5 " 3 "	190	127	108	89
5 " 4 "	198	133	113	93
5 " 5 "	206	138	117	97
5 " 6 "	214	143	122	100
5 " 7 "	222	149	127	104
5 " 8 "	230	154	131	108
5 " 9 "	238	159	136	112
5 " 10 "	246	165	140	116
5 " 11 "	254	170	145	119
6 " "	262	176	149	126

To test the vital capacity, a man should stand in the erect posture, take as deep an inspiration as possible, at the termination of which the tap should be turned off by the operator and the vital capacity can be traced off the scale. It is not for one moment to be supposed that the lungs are emptied of air, as there always remains a certain proportion called residual air.

The vital capacity is greatly diminished in bronchitis, emphysema, pneumonia, as well as in consumption and in disease of heart and viscera of the abdomen.

SPIROMETER.—An instrument for measuring the volume of air expired from the lungs. Females measure less than males, and in either sex the lung capacity decreases after fifty. The quantity of air expired after complete inspiration is termed the vital volume or capacity. This increases by stature. Obesity diminishes the breathing capacity; so also does any abnormal condition which interferes with the mobility of the thorax or the inflation of the lungs. Effusion into lung structure is the most prominent of all forms of obstruction. Every inch of consolidated lung insures a decrease of forty cubic inches of air by measurement, and should have immediate attention.

ELECTRICITY.—As a means of diagnosis is of rare value. The best mode of application is by or through wet sponges. The positive pole in all cases should be applied to the origin of the nerve, and the negative to the other end. By placing the positive at the nape of the neck, the centre of all nerve supply to the body, and the negative over the chest and abdomen, any weakness or tenderness can readily be detected; or, running it down the spine, any loss of vitality in any special nerve can be recognized by a soreness, or burning, or tenderness over it, and the disease located in the cord and organ to which the nerve branches. It is particularly valuable in recognizing the diseases of muscles, especially any tendency to fatty degeneration. In placing the positive pole at the origin of a muscle and the negative at the other end, the muscle if healthy will knot or contract in the centre. The battery must be of sufficient power. The points which it elucidates are the tenderness and soreness of weakened parts, and behavior of the muscles. Still it is capable of defining precisely obscure forms of paralysis, whether due to effusion or white softening.

In diagnosing paralysis, it is well to test the sound side first, then the affected side, and compare the result. Keep the two poles on the muscles about four inches apart; the positive to

the origin, and the negative to other end, then the contractility can be compared.

In hemiplegia due to effusion, the paralyzed muscles lose their contractility at once; in that due to white softening, by degrees.

In paraplegia, the condition of the paralyzed muscles is similar to hemiplegia.

In lead and mercurial paralysis, the contractility remains after the power of voluntary motion is gone, or till atrophy has set in.

In rheumatic paralysis the contractility is usually normal.

In progressive muscular atrophy, diminished contractility follows the gradual destruction of the muscles.

THE SPHYGMOGRAPH is an instrument designed to give the curve of the radical pulse by tracing. It is strapped on the wrist, and is moved by the stroke of the pulse. It never can supersede the fingers, but as a curiosity or toy is well adapted to deceive the ignorant.

SPINAL DIAGNOSIS.—The method of diagnosing disease of the chest and abdomen by mapping out a seat of irritation or anemia of the spinal cord is old and empirical. It consists in either applying a sponge pressed out of hot water, or the electrode of a battery, or pressure with the fingers in the intervertebral spaces. If a tenderness or weakness or irritation can be detected, then it is supposed that there is lost vitality in the nerve or nerves that emanate from that point, and the organ in chest or abdomen that the nerve supplies suffers from diminished vitality or disease. The irritation or disease in an organ is carried to the cord, which is a reflex centre, sets up an irritation there, and a tenderness or weakness can be detected. In hysteria, masturbation, and other anemic conditions of the cord, such points are said to exist. The method has no merit, neither is it reliable, but often subserves the ignorance of the charlatan.

LONGEVITY.—By this is meant the mean number of years which at any given age the members of a community, taken indiscriminately, may expect to live. An easy rule, and one very generally adopted by life insurance agents, has been established for determining this fact, and corresponds very closely with our best statistics. The criterion or rule for determining this is: The expectation of life is equal to two-thirds of the difference between the age of the individual and eighty. Thus, a man is twenty years old, sixty is the difference between this age and

eighty; two-thirds of sixty is forty, and this is the sum of his expectation. By the same rule a man of sixty will have a lease on life for fourteen years, and a child of five for fifty years.

Another method of testing the longevity is by drawing a piece of thread from the outer corner of the eye to the centre of the prominence at the back portion of the head (the occipital protuberance), taking the opening or meatus of the ear as the index. If the opening is below the line, and for every degree below, strong vital tenacity—a degree of vital force that will weather grave disease; if the opening is on the line with the cord, vital force is very weak, little power of resistance to ward off morbid action; if the opening is above the cord, the slightest, most trivial disorder will cause death. The natural atrophy or shrinkage of the brain in old age and in whisky drinking is often remarkable, and exhibits the veracity of this line or angle.

TEMPERAMENT, CONSTITUTION OR DIATHESIS.—Many persons show in their general appearance that they have a constitution which is liable to certain forms of disease. The recognition of such peculiarities of appearance may be of great importance in cases in which it is difficult or impossible to obtain a complete history of the case.

The following are the more important varieties:

THE SANGUINE CONSTITUTION.—Body well developed, head large, teeth massive and good, complexion ruddy, hair thick, digestion and nutrition good, pulse hard, blood pressure high. In later years the body becomes corpulent, and the signs of old age come on prematurely. Such persons are liable to arthritic affections of all kinds, and to diseases of the heart and blood vessels (angina, fatty heart, aneurism, atheroma, apoplexy, etc.).

THE NERVOUS CONSTITUTION.—Figure small and wiry, face mobile, features small and delicate, great activity of mind and body, dyspeptic, and with highly strung nervous system. Individuals of this temperament are specially liable to nervous diseases of all kinds.

TUBERCULAR CONSTITUTION.—The whole osseous system badly developed, joints enlarged, mucous membranes irritable, upper lip and alæ nasi thick, thorax contracted, skin pale and delicate, and hair thin. Such persons are liable to diseases of bones, lymphatic glands, and to tubercle in all its forms.

LYMPHATIC CONSTITUTION. Body large and clumsy, muscles flaccid, face pale and expressionless, movements slow, and functions both of body and mind sluggish.

BILIOUS CONSTITUTION.—Face oval, long upper lip and chin, long nose, complexion dusky, digestion sluggish, liver in particular being inactive, nervous system not highly strung. In its further developments this constitution passes into melancholic, where the patient takes gloomy views of things in general. Such persons are liable to melancholic insanity.

GOUTY CONSTITUTION.—Hair early gray, little tendency to baldness; nose short, rounded, and red; cheeks ruddy, eyes generally dark, teeth large and covered with thick enamel, digestion bad, suffers much from dyspepsia, heart tends to degenerative changes, arteries atheromatous, arcus senilis appears early and is well marked. Persons of this constitution are liable to all the forms of gout, to the cirrhotic form of Bright's disease, to neuralgia, and to apoplexy.

RHEUMATIC CONSTITUTION closely resembles the sanguine, as already described. There is, however, in it a greater tendency to fulness of body and less general vigor. The teeth are liable to early decay.

The greatest difference that can be obtained between the respective sexes within the race between the vital temperaments is the most favorable for a large, long-lived, energetic, civilizing race; the difference is essential for a healthy offspring. All marriages in antagonism to this law will entail on the children some unfortunate result. Children born from parents partly incompatible possess a feeble organization, which is liable to yield to the simplest forms of diseased action, and it is here that a scientific practitioner is so frequently baffled; his best resources of no utility, for in its very birth, blood, tissue, organization, disease and death are stamped, the product of incompatible marriage.

It is unnecessary to repeat that races are antagonistic and distinct, that marriage should never be consummated outside of the race, for if it is, and there be offspring, that progeny will be tuberculous and will enevitably die out. It is simply a deterioration to both races concerned in the effort, and should be prohibited by the most rigid legal enactments, and not countenanced by a set of pseudo-fanatics.

Modern clinical pathology enjoins on every one treating disease, the necessity of a careful examination of the patient. Often, indeed, correct diagnosis, and consequently treatment, depends on the performance of this duty. Exact elucidation of the case is always necessary, as neglect of the presence or absence of a single point may be of grave importance.

DIARRHEA.—In all fermentative changes in the alimentary canal, an innumerable host of bacteria are evolved. These, in the progress of growth, excrete a variety of toxins, which, according to their character and predominance, give rise to various forms of diarrhea, serous, biliary, mucous, feculent, nervous.

The best treatment consists in rest, dry heat to the abdomen, the avoidance of all food, all fluids, which are simply a pabulum to these germs, simply giving teaspoonful doses of Valentine's meat juice every two hours, then selecting a germicide from the following:

One dose of periodate aurum to begin with, in every case, either siegesbeckie tablets or kaki, or lactic acid, or baptisia, or coto, or stone crop; and passiflora incarnata in every case. If the diarrhea does not yield promptly to some one of those remedies, try another, and oil the entire abdomen, then apply concentrated ozone. In the most aggravated cases it is doubtful if we have a remedy that can supplant the siegesbeckie tablets.

Summer Diarrhea.—Both children and adults during the summer months suffer from a variety of gastro-intestinal disturbances. These causes are very common, namely, irritation of the bowels, depressing action of heart, and toxins.

The irritation of the intestines may be due to indiscretion in diet, such as eating green fruit; milk with its tyrotoxicon; canned meats and vegetables—agents productive of bacterial life and ptomains. During the heated term the vital resistance of the gastro-intestinal tract is much lowered by various causes independent of the heat, although it is true that all germs in both stomach and bowels are more active in hot weather.

The best means of prevention are to tone up the stomach, get rid of indigestion, for such conditions diminish strength; impair health; encroach on the function of life; hinder perfect solution of food; disturb the process of digestion—indigestion means fermentation; great care in diet. Forbid the use of water; plain water for drinking purposes should be boiled; ice may be placed around the container, but never in it. The greatest possible care should be exercised with regard to milk, which in all cases should be boiled, and cared for like the water. Cheese, ice cream, all canned or tinned food should be looked upon with suspicion; cooked and uncooked food of certain kinds, if mixed with beer, ale and wine, frequently give rise to an attack.

In the treatment few drugs should be administered. Cleanse

the alimentary canal by the administration of a few doses of the periodate aurum, followed by the aromatic syrup of rhubarb and potassa, which might be repeated. Then administer every three hours one or two tablets of siegesbeckie dissolved in water. This latter is the most available of all remedies. No other form of medication is required. All food except a little boiled water on toast should be interdicted for a day or two. The use of milk in case of infants must be discarded and infant food substituted.

The use of salol as an intestinal antiseptic should be discouraged. It is a cardiac paralyzer, and has a tendency to form calculi, and we cannot afford to employ a remedy which produces disastrous results to the patient, when the seigesbeckie tablets can be procured, which are much more efficient than the salol salts.

The causative factor of the summer diarrhea of children is due to fermentation and the evolution of a dwarf species of the comma bacillus, whose toxins give rise to intestinal spasms and much paroxysmal pain.

Usually teething children, whose intestinal glands are beginning to develop preparatory to the digestion of a different kind of food, are its first victims; later to diet, solar heat and insanitary conditions. The process of glandular development gives rise to hyperemia, and a very slight irritation gives us the diarrhea. Distilled water, sweetened, rendered very slightly acid by the addition of lactic acid, is one of the best remedies to kill the germ and neutralize the toxins.

CHRONIC DIARRHEA.—Quite a number of cases of chronic diarrhea appear to have existed in all parts of the country and in all conditions of life. Nearly all resisted treatment continued for six months, with five or six motions of the bowels per day. The motions were soft, semi-fluid, contained a notable amount of mucus, and very light colored, passed without pain or discomfort, invariably a loss of appetite, headache and bad taste in the mouth.

The old treatment by bismuth, iron, tannin, opii, catechu, was a complete failure, aggravating all the symptoms.

Progressive physicians, men of profound thought and intellectual culture, found the remedy in the fluid extract of Virginia stone crop to stem the progress of this malady. One teaspoonful, thrice daily, the diarrhea disappeared at once, and in every case the patient improved rapidly. Simple treatment, but efficacious.

Many of the cases were bad, emaciated, steadily losing strength, with aphthæ pervading lips, gums, tongue, pharynx; ozonized stone crop saved every case.

Some cases occurring every summer for a period of years, in which the entire intestinal tract seemed ulcerated for its entire thirty-two feet—troublesome cases; in these enemata of stone crop. One teaspoonful to four ounces of tepid water, followed by a cassia suppository, brought the motions from six per day to one, with great gain of flesh and strength. It is apparent from the testimony of many thousand physicians that stone crop is one of the best bowel vitalizers that we possess; every time it is prescribed diarrhea disappears rapidly; that after it is used for a few weeks it never recurs again; that it makes no difference how wasted, or how greatly the strength has failed, Virginia stone crop promotes active intestinal assimilation.

DIATHESIS OF TUBERCLE.—Medical science and advancing civilization have practically stamped out the plague, kept cholera at bay, and robbed leprosy, typhus fever and smallpox of their terrors; wiped out the belief that the civilized races of mankind will die out as the result of the ravages of the tubercular bacillus.

Tubercle, what is it? The changed, altered, degraded bioplasm of our own and other bodies, brought about by conditions inimical to vitality, and when once present give rise to a diathesis—which may be transmitted from husband to wife or from wife to husband—direct transmission by contact is otherwise rare, being chiefly disseminated by means of dust rendered infective by the drying and pulverization of tubercular sputum.

The blood of man may be a mass of germs, his nervous system feeble, but unless some part has suffered devitalization, and effusion has taken place, there may be no growth of any extent. High vital force, normal physiological activity retards growth. In all cases there must be a weak point, a locality, a zone in which germs can grow.

The inhalation of infected dust irritates and weakens the lung; at the same time, is a method by which the germ may enter the bodies in addition to the use of tubercular meat and milk. The infectiveness of rooms that have been occupied by the infected, and the disposal of the sputum, teach us a most important lesson, namely, that all individuals suffering from tuberculosis should be placed in an invigorating locality, sur-

rounded by an ozone-generating atmosphere, where no disease germ can live, for where ozone is, tubercle cannot exist; a diet rich in blood-forming elements; an avoidance of all insanitary conditions; body protected with flannel, and daily invigorated with bathing and massage. In lung tuberculosis there is a great depreciation of vital force, of nerve power; the tone of the blood vessels is lowered, circulation feeble, the working capacity of the lymphatics and pink marrow are impaired; so, in limiting its propagation, we must proceed on a solid basis.

The best prospect of arresting this scourge of humanity consists in an elevation of vital force and in the use of germicides.

DIGITALIS PURPUREA.—The leaves of the foxglove is a powerful arterial sedative, reduces the action of the heart, lowers temperature, exercises an unlocking influence upon the absorbent system, hence its value in cardiac disease and dropsies; small doses stimulate, medicinal doses soothe. Like other acro-narcotics, its prolonged use is disastrous to sexual vigor, destroying the reproductive or fertilizing cells in the brain and spinal centres.

Preparations and Doses.—For unlocking the absorbents in dropsy, an infusion of two or three grains of the leaves to a pint of water; a wineglassful every hour. Tincture in three to four-drop doses as a cardiac stimulant; in eight to ten drops sedative; being a permanent tonic, doses can be decreased in a few weeks.

DIPSOMANIA.—Dipsomania is the term now generally used to indicate an insatiable craving for alcoholic stimulants, though there is nothing approaching madness connected with it. Patients can abstain from it if they so will; such, however, is the enslaving and demoralizing nature of the habit that they need considerable aid from others, and sometimes absolute restraint, to aid them in breaking through the infatuation. To such restraint they usually submit cheerfully, and sometimes they are the very parties to suggest it. There are several establishments in different parts of the country for the reception of those addicted to intemperate habits; the task of reclamation, however, can be safely undertaken anywhere under kind but firm and constant supervision. Ozonized passiflora is the best medicine for allaying the craving, which is often very troublesome. Gelsemium, china, nux vomica, cocculus, coca et cele-

rina, nux moschata, ignatia, aletris farinosa, and cacodylate of sodium are also adapted to the treatment.

For beverage, toast and water, milk, lemonade, fruit-flavored syrup, and water. Change of scene, constant occupation and amusement, together with, for some time, untiring supervision.

DIPHTHERIA.—It is a natural law that when the soil is impoverished, or exhausted, the rot or blight makes its appearance, which, when the soil is properly fertilized, disappears. So, in animated nature, when the vital forces are exhausted, impaired, weakened by improper or imperfect nutrition, the elementary molecules of the blood become blighted, altered, degraded into other living matter, a disease germ. This takes place in animals as well as man, and the outcome of degradation in both is identical.

This human blight or rot may take place at any time, in any season, but great cold and great heat hinders the evolution of the germ, whereas damp, chilly weather gives it an impetus, an increase and activity; social changes in the population, large crowded schools, tenements not only favor the evolution, but afford opportunity for communication of the germ.

This changed, altered, degraded, living matter of our own and other animals assumes the dignity of a pathogenic microbe, which is found chiefly upon mucous membrane, either singly or in groups, forming a kind of interlacing reticulum, often of considerable size. This organism is demonstrable in every case of diphtheria, upon the mucous membrane, especially of the throat, fauces, tonsils, uvula.

We have been in the habit of treating all cases of diphtheria very successfully by improving the sanitary conditions of the surroundings, abundance of fresh air, and improved nutrition.

Spraying, or gargling, or swabbing the throat every hour with a mixture of equal parts of peroxide of hydrogen and ozonized distillate of jequirity and administering the ozonized glycerite of sulphur, in oft-repeated doses, until it operates upon the bowels, at the same time administering a tonic: Elixir cinchona, four ounces; thyroid extract, half an ounce. Mix. Half a teaspoonful every three hours. The use of thyroid in this is to prevent race decay. It acts admirably. Now this treatment is simple, effective, and according to the dictates of common sense. Improved nutrition is the great prophylactic.

Diphtheria is a microbe disease, exhibiting itself in the for-

mation of a false membrane, with great constitutional depression, due to the excretion of the toxins in the vascular lymphatics, followed often by paralysis.

Like all microbe diseases, it is both contagious and infectious, but it can only take root when the soil is favorable for its development. A favorable condition of soil may consist in the mode of life, insanitary surroundings, vital depression of the patient; they have an influencing of the degree of susceptibility.

The most intelligent conception of the serum treatment of diphtheria is that it is a humbug, a big fallacy of modern medicine, and does not in any way advance bacteriological investigations.

The germ, the factor of each disease, is the essential and active agent in the production of a ptomain or toxin, a chemical product of bacterial life, which gives rise to the symptoms.

The use of serum in the treatment of diphtheria is based entirely upon theoretical grounds: (1) that rapid immunization from an infective disease can be produced by the disease itself, and (2) this immunization is due to the formation of an antitoxin, a chemical substance which destroys the toxic bacteria.

This is not a fact; it has never been produced. It is merely an hypothesis of visionary minds, not a chemical substance.

Has it been demonstrated that this serum, when injected under the cuticle, produces immunity from diphtheria, or even cures it, or that its use is free from danger? Our experience has been that it neither protects nor cures, and always incorporated with danger. There are no scientific, theoretical or experimental grounds for accepting the so-called antitoxin serum as a specific remedy for diphtheria, because it has no specific remedial power. The remedy often does harm, for it always exerts a decomposing or septic influence upon the blood and acts disastrously upon the kidneys.

The reminiscences of the atrocious system of vaccination at our quarantines, of tuberculin, of the attenuated virus of canine madness, of serum, are simply the avaricious modes of charlatans.

The National Bacteriological Society of the United States of North America is the largest membership of scientific men in the world, embracing twenty thousand of the most eminent in the medical profession. We give their opinion in corroboration of our own:

Diphtheria is recognized as an infectious and contagious disease, often endemic, characterized by great prostration of

vital power, combined with great constitutional disturbance, and an exudation of plasma in which the spores of the streptococcus are distributed on the mucous membrane of the throat, mouth and nose, and other mucous membranes.

This pathogenic microbe possesses prodigious tenacity of life, surviving long periods in clothes, especially if laid away in damp places. All domestic animals, cats, dogs, even rodents, as mice, rats, squirrels, become affected and are active carriers of the germ; parrots, doves, chickens, turkeys, etc., are also frequently victims of its ravages.

The toxin of this microbe creates embolism of the blood, paralysis of the laryngeal, pharyngeal, facial and other nerves; cardiac failure, and renal disorganization.

The specific micro-organism in this disease, the streptococcus of diphtheria, has a double cycle of existence; one is passed in the soil and another in a devitalized body; one is a saprophytic, the other a parasite. In order to account for the epidemic and even pandemic waves of diphtheria, there is a diminished electrical state of the atmosphere, a vitally deteriorated body; then the germ becomes actively virulent and infective. Such an atmosphere as is engendered by a large public school, the greater the better, the aggregation or overcrowding, form a favorable site for the dissemination of the streptococcus of diphtheria.

In this microbic disease two classes of remedies are required, germicides and fortifiers; the former, like the glycerite of sulphur, to kill the germ; the latter, the glycerite of kephalin, to feed the brain, reinvigorate the system. Place the tissues in a condition to prevent the lodgment of germs; strengthen the blood, so as to render it a barren soil for their growth.

The growth of the diphtheric germ in a feeble body is rapid, terminating in four or five days; treatment must be prompt, decisive. Administer freely glycerite of sulphur until the system is saturated with it, which will be known by its action on the bowels; give a cinchona alkaloid to aid blood formation; spray throat every two hours with peroxide of hydrogen and papoid, or peroxide of hydrogen and jequirity.

Spraying the apartment every two hours with formalin destroys all the germs in the apartment, unites with all sulphuretted or nitrogenous products of decay or decomposition; prevents auto-infection.

Under states of greatly depressed vitality in man and domestic animals there appear certain microbic or fungoid dis-

eases. These occur sporadically, endemically, epidemically, and are contagious and infectious, and capable of passing from animals to man, and *vice versa*.

The microbe of diphtheria is the most common and best understood of all those conditions.

Vital force being low, the germ, if in close proximity, enters the blood, and in an indefinite period of time, depending upon the status of vital force, demonstrates its presence by a characteristic inflammation of the mucous membrane of the throat, which tends to exudation of plastic lymph, the formation of a false membrane, consisting by and by exclusively of microbic growth, which has prodigious powers of growth and reproduction, and which, during the process of sporulation, excretes a most potent deadly poison or toxin, which kills the red corpuscles of the blood and paralyzes the nervous system.

Its true etiology is not fully known, but this blight falls upon the young, the feeble, the broken down, the defenceless, those whose vital forces are weak, whose tissues are soft, non-resisting. The very weakness or delicacy of structure enables this germ to penetrate.

Place all or any of our domestic animals in conditions adverse to a high state of vitality, the same degenerative conditions of blight appear. Highly vitalized individuals, or structures, retard or prevent the ingress of this blight.

In the treatment of diphtheria there are *three* things indispensable: kill the germ, neutralize its toxin, build up or reconstruct vital force.

The only known antidote to kill the germ, neutralize its toxin, is the ozonized glycerite of sulphur. The administration of this in every case completely annihilates this fungoid condition in the blood, and roots out its toxin. Try it; you can rely upon it; it will never disappoint. Give it in small doses, oft repeated, until the system is thoroughly saturated with it—every spore and germ obliterated. This is known by the sulphur acting upon the bowels. When this is the case don't discontinue, but administer every three or four hours.

What can be done for the diphtheric exudation on the tonsils, uvula, fauces, trachea, which is encroaching on respiration? If the child is quite young, spray it with a mixture of equal parts of c. p. peroxide of hydrogen and ozonized distillation of jequirity; if older, able to open his mouth, paint all the parts freely with the jelly of violets or some powerful germicide.

Local remedies are of much value. Every physician has his

favorite formulæ. Peroxide of hydrogen and carbolate of sodium answer a good purpose, and more recently a solution of the hyposulphite of sodium. When this latter is used it is prepared as follows: Take a saturated solution of the hyposulphite of sodium, four ounces; c. p. glycerin, four ounces; mix. Apply by a brush to the germ-swollen parts once or twice daily, or as often as the attending physician deems it necessary. It generally suffices to clear away the false membrane, kills all the germs, relieves the engorgement of the mucous membrane, which is so favorable to the evolution and growth of the streptococcus. This remedy has a decided action as a germicide-chemical destruction of the microbe.

The profession must digest the subject of human and animal blight with an unbiassed mind. It has its origin in profound debility, exhausted vitality, so that the most constructive and vitalizing agent in the materia should be administered.

Mould and rot in the vegetable, diphtheria in the animal kingdom are preventable maladies. The use of microbicides to retard, sterilize, is invariably followed by limitation of the disease. Both are the evolution of partial death, of decay. When either gets around some one is to blame. Danger of contagion and infection when the streptococcus of diphtheria has made an escape. All outgoings and incomings must be checked; all domestic animals, such as dogs, cats, parrots, etc., banished; exterminate all sources of filth, whether of the earth, air or water. Don't be deceived. Diphtheria, the modern blight, does not come from afar, through the air; so do not shut up your houses tightly, for it cannot be shut out. Inhaling re-breathed air makes it easier for the microbe, if present, to seize the child. Abundance of fresh air at all times, sunshine, and the best of nutrition, are inimical to the germ. Crowded schools are the foci of contagion.

We have many adults walking around with sore throat; technically, diphtheria; vulgarly, but truthfully, the rot.

Prudence dictates caution in using tumblers, drinking cups, towels used by others. Stern rectitude demands of us that no infected individual should kiss a child, as that very act may be the unconscious signature to the little one's death warrant. Drinking water and milk carefully scanned.

It has been recently discovered that if there be any value whatever in antitoxin it is due to the carbolic acid in the serum; that all the sudden deaths, heart failures, degenerative changes in the kidneys, which follow the use of antitoxin, have

led all progressive physicians to discard the serum for a one-eighth of one per cent aqueous solution of carbolic acid.

Clinically, it has been found that the hypodermic use of this solution produces the same effects claimed for antitoxin, namely, a lowering of temperature and amelioration of the inflammation in the throat. When used early, before extensive blood changes occur, and in patients having a reasonable amount of vitality, it often aborts the disease. This is a valuable item of knowledge which we have gleaned from our experience with antitoxin.

The carbolic acid treatment acts best in children who have strong hearts and considerable vital reserve force. Superficially viewed, these cases seem the most serious because the system makes a strong fight against the disease. There will be high fever, great nervous excitement, and intense congestion of the tissues of the throat, so that the child presents a deplorable spectacle with its livid, swollen face, and anguished struggles for breath. In these cases the injection of carbolic acid solution, one-eighth of one per cent early, produces an effect similar to pouring oil on troubled waters. The fever declines, the congestion subsides, and the excitement being over, the various organs return to their ordinary duties, and the system soon recovers its previous tone. But if the child is suffering from great nervous prostration, low fever, passive congestion of throat and nose, with sanious discharge, weak heart, profound anemia, no hypodermic injections should be used.

DIRECT MEDICATION.—The efficacy of direct medication is becoming daily more appreciated by the profession. The power of absorption by the glands and follicles of the mouth, vagina, rectum and urethra are immense, and form excellent channels for the exhibition of remedies.

Sublingual medication is away ahead in real practical utility. A protonuclein tablet under the tongue, thrice daily, increases blood cells and plasma at a rapid rate, double in potency as when swallowed; two grains periodate aurum under the tongue operate powerfully as a bactericide, and a glandular stimulant; so with many other remedies.

In all lethargic states of the female organism insert, and reinsert at proper intervals, a pastil of white pond lily well up against the uterine os; an affect of rejuvenation is promptly experienced, lost elasticity is restored. The insertion of a senecin tabloid in a case of a prolapsed uterus causes it to recede two inches.

The passing into the rectum of a kurchicin suppository, thrice daily, kills the entire brood of malarial germs swarming in the blood; wipes out that indescribable tired feeling incidental to ague, and enriches the blood. The administration of cassia suppositories kills the bacillus of typhoid fever; the use of guaiacol suppositories are so efficacious that they are superseding stomach remedies in tuberculosis. Boroglyceride and ichthyol suppositories relieve the misery of an enlarged prostate, whether the result of age or early excesses; salix nigra suppositories arrest all the oozing, weeping, leakages incidental to spermatorrhea; the oil of thuja suppository inhibits the sprouting as well as the matured neoplasm of cancer.

Urethral medication is chiefly carried on by means of medicated bougies, which are easily and painlessly inserted, and when once in melt, run over the irritated, inflamed, germ-smitten or structured parts. The iodol bougies, when inserted, absorb stricture; the thallin bougies kill the gonococci; the ambrosia, alternated with the damiana, cures impotency; the saw palmetto relieves a congested prostate gland, whereas the salix nigra bougie affords local and direct medication of the seminal ducts and vesicles, as well as the generative nerves. Their use relieves the irritation in the deep urethra, into which the seminal ducts open; in other words, they cure the trouble which always exists in spermatorrhea and impotence; their daily use subdues inflammation, congestion at the neck of the bladder, stops the loss from the seminal ducts, the drain of vital fluid which is continually oozing away and sapping their vital force. These bougies contract the mouths of vessels and prevent semen oozing away, thus relieving the distressing nervous symptoms.

Take it all in all, direct medication is one of the necessities of the age; all our young men need it. The growth, vigor, prosperity of our nation depends upon our young men maintaining their strength and vitality; if they are nervous, weakened, effeminated by masturbation or drained out by sexual excesses, the result is disastrous; direct medication is indispensable.

DISEASE.—Disease may be defined as a deviation from health, or a partial death either of a part or of the entire body. Some would define it as a want of equilibrium between the positive and negative forces of the body; others a difference between the solids and fluids. The aim or object of all treatment in disease is to aid nature to promote a renewal of life.

DISINFECTANTS.—The best of all is chloride of lime, and should always be kept in the house. Never forget that the sanitary state of the house requires attention all through the year, and not during the hot months only. A little chloride of lime should be put down sinks and drains every night and morning. The best plan is to mix a couple of tablespoonfuls in a pail of water and flush the drains with it. Some people object to the smell, but it is so wholesome that none need mind it, and it purifies the air, rendering it very fresh where it has been close and oppressive before the introduction of the chloride.

Turpentine is a powerful disinfectant, and deserves to be better known than it is. It is of the greatest possible use in smallpox, as the use of it prevents its spreading, and it relieves the irritation and unpleasant effluvia always present when that terrible disease is at its height. It should be used thus: Mix four parts of pure olive oil with one part turpentine, and apply with a feather, using a fresh one for each application.

Camphor is another good disinfectant, and will, if carried about and inhaled in a sick room, prevent infection. In scarlet fever it relieves the patient to place a piece on a red-hot iron spoon and carry it about the room until dissolved.

Formalin, two drams to a quart of water, either sprinkled around a room or exposed in hollow vessels; renewed daily.

The fumes of burning sulphur are excellent, but unfitted for respiration.

DISINFECTION.—The destruction of the microbe on which a particular disease depends. This may be done by means of a *disinfectant.* An *antiseptic* prevents the growth of micro-organisms, but does not necessarily destroy them. These terms have been very loosely applied, and it as well they should be known to refer to perfectly distinct agents, such as can be inhaled without injurious effects.

DISLOCATIONS.—The joints of the human body are simply so many hinges upon which the bones move, all finely lined with a soft, velvety membrane, which, during sleep, secretes a bland fluid for lubrication. This lining tissue is called a synovial membrane, and the amount of synovia secreted during repose depends greatly on the health of the individual; if of good vital stamina, it is so great as to increase the stature by nearly an inch in the mornings. In cases where the nervo-vital fluid is deficient, as in masturbators, the secretion is so deficient as to

cause the joints to crack. If a joint is tied up, immovable for some time, and no demand made for this lubricating fluid, there is none secreted. In all cases it is expended by healthy exercise during waking hours.

Joints are all encased in a strong capsular covering, or ligament, which retains or holds them in position, and forms a cap, cup, or reservoir to hold its synovia. This capsular covering, or ligament, is often weak, relaxed, and in some cases it is torn or lacerated, so that the head of the bone escapes from its cavity into the surrounding parts. If the covering of the joint is merely relaxed, the head of the bone may come out of its socket, but is easily thrown into its place by the individual himself; but when it escapes through a tear, it requires relaxation of muscles and manipulation to get it to recede back through the same opening by which it escaped.

A dislocation, therefore, is the escape of the head of a bone from its natural cavity.

Causes.—It may be caused by external violence, or muscular action, and in some cases of diseased joints, by ulceration of the ligament.

Symptoms.—The symptoms are two: *deformity* being the alteration in the form of the joint, in unnatural prominence at one part, a depression at another, with lengthening or shortening of the limb. Loss of the proper motion of the joint. There may be numbness, pain, ecchymosis, swelling, etc., but no crepitus.

Treatment.—If possible reduce the dislocation before the patient recovers from the shock, while relaxed; if not, administer lobelia, to nauseate him and relax, or else chloroform and ether. Better, as a rule, to relax the muscular system in all cases, either completely or partially. Then the head of the bone should be manipulated or manœuvred back into the socket through the same opening through which it made its escape. The shoulder and hip joint are the only two that require nice manipulation or rotation; all others are brought into their place by simple extension, an assistant holding one part, and the other drawn gently into its place by the operator. After a dislocation has been reduced, the limbs should be bandaged up for ten or fifteen days, giving the tear in the capsular time to heal up. If it is complicated with fracture it is likely to give rise to a stiff joint, or ankylosis, under the best of care.

DUMPING GROUND.—All the poverty, squalor, ignorance, crime, human depravity, helplessness, parasite and microbic diseases of the old world are dumped at our very doors by immigration.

Just think of it, that among the best fed, housed and clothed people in the world, we have in our very midst quite a large proportion of lepers.

Past years have witnessed the importation of typhus fever, dumped down in every nook and corner of our cities by the Commissioners of Emigration, but promptly stamped out by the efficient Boards of Health; but they still persist in a recurrence, a fresh importation of the deadly malady.

Smallpox of a most malignant type has recently been imported in goodly numbers, dumped down on our shores, where it became endemic and epidemic, all remedies failing to wipe it out until oil of thuja eradicated the microbe.

Through the same apathy, morbid indifference, criminal callousness, we are likely to have a visitation of the microbe of cholera and plague. We see no reason why all our seaboard cities should become the dumping ground of Asiatic and European cholera.

The factor of the disease is a pathogenic microbe, of deadly power, which may be carried through air, either by ships or by clothing or by individuals. The stoppage of emigration for ten years would stamp out all leprosy, all typhus, much of the smallpox and scarlet fever, epidemic influenza, with its fatal sequel pneumonia, and prevent the approaching visitation of the comma bacillus and bubonic plague.

DYSENTERY.—When isolated from the ordinary excrementitious matter of the lower bowels the microbe of dysentery appears in the field of the microscope as a germ, slightly elongated and oval, or short and cylindrical, with rounded ends. They divide by fission; like the micrococci, the individual elongating and becoming constricted in the middle, capable of spontaneous locomotion, having a flagellum at one or both ends, with which they perform active spinning or darting movements. They are capable of forming zoogloea, in which the interstitial gelatinous is more copious. The microbe is pathogenic of the disease, bears cultivation well in any broth; the culture when injected into animals give us all the virulence of the original disease. The micro-organism is indigenous to the rectum and

colon; breeds and multiplies there, excretes ptomains, which give rise to the tenesmus, fever, furred tongue.

Our ideas of the treatment of all cases should be to some extent guided by its etiology; whether it originates under the influence of solar heat, catarrh, malaria, carbonaceous food or drink, or whether it be sporadic, epidemic, sthenic or asthenic, and general conditions.

If the microbe has migrated to the colon with decided inflammatory symptoms, give green root tincture of gelsemium and passiflora incarnata in as large a dose as the patient can bear. Maintaining this action subsequently with smaller doses. Take periodate aurum twelve grains, sugar of milk one dram. Mix thoroughly and give one morning and night. This cleans the tongue, sweetens the breath, appetite returns, languor disappears. In catarrhal cases, administer siegesbeckie tablets from three to six daily, dissolved in water; in malarial cases the concentrated kurchicin should never be omitted.

In all cases flush the colon morning, noon and night with a warm infusion of flaxseed and peroxide of hydrogen or Chian turpentine mistura; either will sweep out the entire germ colony.

In the convalescing stage select some germicide like stone crop, resorcin, lactic or mineral acids, with cinchona to wipe out the debris of microbic growth, unload the intestinal follicles to eliminate waste products of the body.

Never treat diarrhea with astringents, but always with germicides, as in all cases there are microbes of every description in the intestinal tract. Diarrhea often attends the commencement of fevers, epidemic cholera, hepatitis, meningitis, etc., owing to microbic irritation of the bowels. It is often associated with gout, and is often a dangerous complication in remittent or continued fevers, scarlatina, measles, smallpox, in which cases it arises from a migration of the pathogenic microbe of each respective malady to the abdominal viscera, and the pathological changes induced by the retrocession, the dejecta being loaded with bacteria. It is also frequently due to the ptomain or toxins of disease germs, as we see in the disorganizing effects of the tubercle bacillus; auto-infection of other germs and absorption of their toxical matter generated in their growth. All cases, whatever be the cause, the vital cohesion or tonicity of the mucous follicles have become impaired, often ulcerated, and the germ-laden evacuations are either mucous or mucopuriform, or serous or grumous, or seropurulent and partly feculent.

Aside from rest in the recumbent posture, nutritious liquid diet, concentrated ozone over the abdomen, with heat, a selection should be made from one or other of the following antibacterial list: if a purely vegetable course be deemed advisable, kaki, wild indigo, or siegesbeckie are excellent; but more efficient remedies might be selected, as either lactic acid or salol, or sulphocarbolate of zinc, or resorvin or salicylate soda. Still disinfection of the intestinal canal may be effected by either benzol or naphthalin, or even creosote in balsam of Peru, more efficiently than by salol or resorcin, or mistura guaiacol.

THE PATHOGENIC MICROBE OF DYSENTERY.—A most successful method of exterminating the micro-organism of acute dysentery is as follows: A copious enema of an eight volume solution of peroxide of hydrogen, rendered acid by the addition of a few drops of lactic acid; as soon as this passes off, enjoin perfect rest in bed in the recumbent posture; relieve abdominal pain by rubbing concentrated ozone over the entire abdomen; administer often, every half hour in small doses, tincture of the green root gelsemium, which will diminish the irritability of the stomach, prevent nausea and vomiting, control microbic evolution, thereby soothing restlessness and alleviating tenesmus. The desire to go to stool passes away, fever departs, skin becomes moist, and great relief is experienced; even the motions become feculent and yellow in color. For drink, infusion of kaki, acidulated with lactic acid, is an excellent drink. If any irritation should remain, apply the concentrated ozone again over the abdomen, continue the gelsemium, and insert a cocain suppository, which has a most beneficial effect, as it gives ease, sleep, aids recuperation.

If there be much hepatic torpor or portal congestion, small doses of matricaria is a remedy of rare value.

Liquid nourishment, beef tea, chicken broth is indispensable.

To tone up, revitalize, the weakened bowel, no remedy is so efficacious as the ozonized Virginia stone crop, which should be persevered with for some months.

The medical reports of all our hospitals afford evidence of the success of this remedy in all weakened states of the intestinal canal. It ameliorates every symptom of disease and promotes a renewal of life in the bowel.

DROPSY.—An abnormal accumulation of serum in one or other of the three great cavities of the body or into the minute lymph spaces of the cellular tissues, constituting edema. It may

either be the result of inflammatory action in serous membranes, or due to obstruction, degenerative changes, or to the toxins of disease germs, or an excessive exudation may take place from the walls of the capillaries, owing to a watery condition of the blood or a stasis in the capillaries. Edema may occur from loss of tone or contractility in the minute vessels. In anemia and chlorosis, watery blood, there is a tendency to exudation through their walls, more especially if vasomotor paralysis exists.

Rarely does either venous or lymphatic obstruction give rise to dropsy; but it is often present in the uric acid diathesis, when there is an excess of this acid in the blood, renders the walls of the vessels permeable, favoring transudation.

Disease germs and their toxins are often productive of dropsical effusion.

Anasarca.—An effusion of serum into the cellular tissue, the result either of some degenerative or obstructive action in the kidneys or cardiac failure—one of the compromises of nature, which enables machinery to go on a little longer. This form of dropsy is due to a leakage from the congested capillaries into the cellular tissue; also, to a retarded removal of the fluids by the lymphatic vessels. General treatment, and in this form the hot air bath, which does not produce so much sweating. The hot air relieves the kidneys and aids in the elimination of the toxin which caused the obstruction. The hot air bath relieves the kidneys, and the abundant sweating gets rid of the effusion.

We cannot speak too highly of an infusion of digitalis leaves in extreme cases of anasarca; cases in which all remedies failed to relieve the dyspnea and edema; a fresh infusion made daily, and while one pint of water is boiling briskly, one dram of fresh digitalis leaves is added. Permitted to cool and drunk freely, causes a copious secretion of urine. We get the full diuretic effect of the drug, in addition to its action on the heart muscle. It removes the dropsy and gives the heart another chance to recover itself.

Ascites.—An accumulation of fluid in the peritoneal cavity often leads to enormous distention of the abdomen. Its etiology chiefly either an effect of peritonitis or cirrhosis of the liver, although it is often associated with morbid states of the kidneys and pancreas, cardiac failure. The fatty liver of the drunkard is its most common origin; once a slight distention, an unraveling of the peritoneal fibres adds greatly to the difficulty, and hastens the effusion.

In this and the following forms of dropsy the ozonized tincture of apocynum is the only remedy to depend upon; treating the condition otherwise on general principles, with baths; secretions well stimulated by alteratives and tonics. Use ozonized apocynum irrespective of the remedies you are using; add to your list ozonized tincture of apocynum. This is the remedy for dropsy, both prophylactic and curative, as when administered it braces up the blood-vessels, prevents exudation. Don't fail to give it in every case and with a liberal hand; it will never disappoint when there exists an atonic state which permits free exudation. Whenever there exists relaxation of blood-vessels, even in the irritable, relaxed heart of the smoker, this remedy does splendid work.

HYDROCEPHALUS.—Under two years of age, effusion of serum from the membranes of the brain is very liable to occur in modern neurotic children, either from blows, falls, or from reflex irritation from the intestinal tract or other parts of the body. The very fact that in infancy, nay, up to puberty, there is but one skull table in the various bones, that the diploetic structure has not been elaborated, renders the brain of all children extremely susceptible to the slightest irritation. Especially is this true as regards boys, who are the weaker till puberty is reached, but subsequently become the strongest as the sympathetic and sexual organs are developed.

All irritations under two years of age are liable to give rise to effusion of serum; if not that, invariably depreciate the centre of vitality so much as to create a tubercular diathesis, in which the elementary molecules of the blood are degraded; changed into a disease germ, the tubercular bacillus.

In irritation of the cerebrum its membranes sympathize; it makes little difference whether it be mechanical or reflex; effusion may take place, child's head enlarges; forehead overhangs the face, which is wrinkled and aged looking, with eyes deeply sunken.

As a rule, the inflammation which gives rise to it is insidious in its course, often almost devoid of fever; but the characteristic headache is there, aggravated by noise, light, heat, motion; vomiting, loss of appetite; convulsions, idiocy, and other forms of mental derangement are often present, and finally paralysis and death.

HYDROTHORAX.—An effusion of serum into the cavity of the chest, either as an affection in pleurisy or some obstruction in the heart muscle; occasionally present in anemia.

General principles of treatment should be carried out. Infusion of apocynum operates like a charm, eliminating material that blocks up the absorbents; one of the very best remedies in hydrothorax, sulphate spartein, is highly extolled as a remedy for dropsy.

HYDROPS PERICARDIUM.—Generally due to the toxin of the bacillus amylobacta, giving rise to inflammation of the sac into which the heart is suspended. When it does take place the area of dullness over the heart is increased; sounds of the heart are muffled; very probably edema at the ankle.

The successful treatment of dropsy can only be obtained by carefully adapting the remedies to the pathological peculiarities of each individual case. And a disregard of this axiom accounts for the ill success in this disease. Where dropsy is connected with organic diseases of the heart, such remedies as collinsonia, digitalis, convallaria, adonis, and such other remedies as lessen the exudation of lymph into the cavities and lymph spaces, and such as encourage the free exit of the lymph from the cavities and lymph spaces, tend to the cure of dropsy. Hydragogue cathartics aid this last result, but they are too debilitating to be long continued. Diuretics can be used with much benefit, as they eliminate the lymph from the blood, thereby inviting the lymph back into the circulation, to be thrown off by the kidneys, and at the same time other remedies should be given to lessen exudation into the lymph spaces and the cavities, and remove it as rapidly as possible.

DROPSY OF THE SCROTUM.—An effusion from the internal lining membrane of the scrotum. May occur in scarlatina, the toxin of the micrococci, from defective elimination may irritate the serous coat, and give rise to considerable effusion. All sources of irritation are liable to give rise to it.

Easily recognized by its transparency, smoothness, fluctuation.

Usual internal treatment for dropsy may be tried, together with chloride of ammonium lotion locally, and it is usually a success in the young, but in elderly patients they may be tried; but it must be borne in mind that tapping is certain and safe provided that when the fluid is drawn, the secreting faculty of the sac is destroyed by either injecting tincture of iodine or oil of thuja, or peroxide of hydrogen; and none of them being handy, a seton.

It must be borne in mind that in some cases the effusion is sacculated, like a honey-comb; hence, it is indispensable for a positive cure that each be tapped.

DYSMENORRHEA (*Difficult or Painful Menstruation*). —There are three varieties met with in practice:

1. NEURALGIC DYSMENORRHEA.—Nervous dysmenorrhea is very common among highly educated and refined ladies—those who have developed their nervous system at the expense of the physical, those who have insufficient exercise for body, who lounge and keep reading our fictitious, debasing, modern literature—that deadly poison which undermines their nervous systems. It may appear at puberty, but more generally it comes on from enervating causes after some years of painless menstruation, especially in the unmarried. In married life, it may come from the irritation of frequent abortions and the use of means to accomplish that act. It may be due to incompatibility in the sexual act.

Symptoms.—General languor, lassitude, debility, headache, with pains in the back, sacrum and lower part of abdomen, coming on a few days prior to period; an aching soreness of inner and upper part of the thighs; bearing-down, with a sense of weight in the pelvis. As soon as the discharge comes on freely, relief is promptly experienced; if the flow is scanty, and comes on in slight gushes, the suffering is often excruciating; it becomes paroxysmal, pain comes and goes; often considerable pain in left ovary, sometimes in both; no swelling or heat, or increased sensibility in parts. There is flatulence, constipation, hysterical symptoms or convulsions.

Treatment.—During the attack, a warm hip-bath, teaspoonful doses of solution of morphia, every half hour, till relieved, or large doses of gelsemium and passiflora. Then discontinue. A better plan is to let her inhale thirty or forty drops of chloroform, and give hypodermic injections of one-quarter of a grain of sulphate of morphia; that affords instantaneous relief. If aware of attacks coming on, they may be prevented by applying a belladonna plaster across loins, four by nine inches longways across the back; the administration of tincture of belladonna internally, till throat becomes slightly dry and pupil dilated; the introduction of a pastil up vagina, and suppository up rectum, every three hours; for the vagina a boroglyceride pastil; for the rectum a cocain suppository. Begin five days before periods.

From two to three weeks during the interval the following treatment should be carried out vigorously: The bowels to be regulated with cascara; daily, tepid alkaline bathing, followed by shower-bath or friction; flannel next skin, especially over

loins; most nourishing food, easily digested; avoid tea, coffee; sleep on mattress, not over seven or eight hours; abundance of exercise, games, moderate work, so locomotion is active; horseback exercise; sedentary habits and novel-reading to be forbidden; if married, sexual intercourse to be avoided. Then place patient upon two of the following remedies each alternate week: Glycerite of kephalin, c. p. solution of spermin, wine of aletris farinosa, comp. syrup partridge berry. For the stomach, matricaria.

2. CONGESTIVE DYSMENORRHEA.—Membranous or inflammatory dysmenorrhea may occur at any period of life, and in the large percentage of cases it is associated with plethora and sanguine temperament. Its true origin is not well understood; indeed, it is in uncertainty and doubt; but one thing is very certain, that there is congestion—a sort of inflammatory condition of the internal lining membrane of the uterus. Whether this hyperemia is in the uterus, or in the ovaries, or in the pelvis, generally it is immaterial.

Causes.—Aside from the diathesis, gouty or rheumatic, and pelvic irritation, general plethora of the genito-urinary organs, from sedentary habits and occupations, it may be caused by local irritation, as abortion, exposure to cold and moisture; sluggishness of the liver, displacement of uterus, and metritis.

Symptoms.—Suffering begins four or five days before each period, in a general sense of languor, or weariness, with headache, pains in the loins; a feeling of weight in the pelvis; general restlessness and irritability of the bladder; there are heats and colds, with other evidences of nervous depression. The weight in the uterus becomes a pain of a throbbing character; then dragging in the back, aching in the hips and thighs, and bearing-down, especially when pain is on. Discharge, after a few days' suffering, makes its appearance, usually slowly and gradually, scanty at first, but subsequently, after the system is relaxed by the condition of prostration, it comes freely. It may come in small clots, or shreds, or flakes of membranes, or sometimes in the form of a large pear-shaped clot, covered with a false membrane, an exact cast of the cavity of the uterus. This membrane looks like the epithelial membrane lining the cavity of the uterus, analogous to the decidua. In some cases there is no congestion of the uterus, while in others it is much engorged, often displaced; ovaries very tender, with swelling and tenderness of breasts. If the portal circulation is sluggish there will be piles.

Treatment.—During the period, warm hip-bath, free action of bowels, gelsemium and passiflora and boroglyceride pastils, cocain suppositories.

During the rest of the month, or when the period is over, patient should have the best of food, bowels to be open twice daily, bathing daily, flannel clothing, general alteratives and tonics, embracing such as ozonized syrup of saxifraga, with iodide of potass, ozone-water, glycerite of ozone, iodide of lime or lime-water, and tincture of iodine; with such bitter tonics as gentian, collinsonia, kurchicin. With those remedies, in the course of three or four months, a cure is effected. The plan is to select two, a tonic and an alterative, administer for a few days, then change on to other two, and so invariably keeping patient on either iodide of potass, or iodide of lime.

To inject the uterus once a month with four ounces of distilled water (milk warm), with twenty grains of iodide of potass dissolved in it, has a most salutary effect; but American ladies, being so highly civilized, do not bear it well, it producing reflex symptoms that are often alarming, such as nausea, vomiting, numbness in hands and feet, and prostration. To guard against such, the four ounces should be placed in a hard rubber syringe, just holding that amount, with a male catheter point, carefully introduced into the uterus, and thrown in very gently, allowed to remain a few minutes, then every drop drawn back into the syringe, and then withdraw it. If performed carefully, and with nicety, there need be no trouble; it hastens a cure amazingly, by producing a healthy action in the walls of the uterus. If there are no very distressing effects, it might be permitted to remain a short time, but in all cases never leave a drop in uterus. The best period to do it is about the middle of the month, between the two periods. It is rarely necessary to repeat over three times in all. Moderate exercise; recumbent posture better for rest than sitting; malt or alcoholic liquors, and sexual intercourse, to be avoided. Conception never takes place in a well-marked case.

The shreds, clots, or coagula, are always loaded with innumerable bacteria.

3. MECHANICAL DYSMENORRHEA.—This term is applied to a thickening, induration, cartilaginous degeneration, or stricture of the external and internal os uteri, or neck, or a narrowing of the entire canal of the neck. It may also be due to some tumor, or uterine displacement, as anti- or retro-flexion;

these latter we do not include in the following remarks. What we speak of here is either a narrowing of the canal of the neck or its infiltration with lymph, or cartilage, or a true stricture of the external or internal mouths of the cervical canal—conditions that cause sterility as well as dysmenorrhea.

Causes.—The causes that give rise to this induration, or mechanical obstruction, are inflammation, such as acute and chronic vaginitis, leukorrhea, self-abuse, excessive coition; congenital irritation common cause.

Treatment.—Usual treatment during an attack, as already laid down, with the exception that tincture of green root of gelsemium, or lobelia, might be added to more effectually relax. There are several methods of treatment that can be tried during the intermenstrual period. In all it would be well to put patient under an alterative and tonic course of remedies, as ozonized saxifraga, phytolacca, glycerite of ozone, iodide potass, cinchona and mineral acids, attending to all minor symptoms, as dyspepsia, constipation, anemia. Then try treatment with aristol alternated with boroglyceride pastils, one inserted every three hours alternating, lying down for one hour after each.

Dilation, by means of sponge-tents, sea-tangle, and metallic and rubber dilators is worse than useless, setting up more irritation and additional obstruction. Those expanding instruments may produce no bleeding, but they are very destructive, and if often repeated are most harassing to the patient, and invariably after their use the canal returns to its former size, even a little narrower. There is no good in either slow or rapid dilation, and even the new method of dilating, lacerating, tearing, by divergent blades, is useless; there is danger of irritation, if not of metritis, pelvic cellulitis, or peritonitis.

Incision is the best plan, as it gives rise to no suffering, gives a sure result, and is free from danger, if properly performed, and rapid. This is best performed by a pair of scissors, made for the purpose, one blade terminating in a probe-pointed end, which enters the os; the other by a hook, which seizes and fixes the vaginal portion at the point desired. One stroke of the scissors divides the intervening tissue in a straight line. The proceeding is then repeated on the other side of the os, and the operation is then completed. There is a tendency to contract again even after that. To meet this, there should be a slight nick made of the internal os, just sufficient to divide the mucous membrane and some of the superficial circular fibres

of the muscular coat. This will allay spasmodic sphincteric action. The incision should be no greater, because it is superfluous and even dangerous. At the mouth of the inner neck there are blood-vessels in profusion, and of considerable size. Large veins, without valves and small arteries, gap at the uterine level, and are apt to bleed very profusely if uterus is cut into. A piece of lint, saturated with the juice or extract of hemlock bark, is to be inserted between the cut edges, and patient kept in bed under opium.

If the patient and friends are willing, the best plan, if the suffering is great, is to perform the operation at once, as it is only a waste of valuable time to exhaust the usual list of remedies on her first.

DYSPEPSIA, NERVOUS.—May be defined as a sensory neurosis differing from hyperesthesia in that the disturbances are intimately associated with digestive activity of the stomach and that symptoms are very similar to those of different forms of gastritis. In nervous dyspepsia both motory and sensory functions may be disturbed. There may be an acidity, subacidity, or hyperacidity. Diminution in the amount of the gastric juice, hypermotility and atony are often found. If the functional disturbance is marked and continues a long time, nervous dyspepsia may be easily confounded with other affections, especially with one or other of the forms of gastritis. Nervous dyspepsia, thus defined, is not the frequent affection it is commonly supposed to be, and not all dyspeptic symptoms in a nervous individual point to nervous dyspepsia. In fifty such cases post-mortem examination revealed the fact that more than one-half of the patients had suffered from other diseases of the stomach, principally inflammatory processes, and only in eleven cases were the complex symptoms of nervous dyspepsia found.

Nervous dyspepsia usually brings with it other nervous symptoms, sometimes giving us a complete picture of neurasthenia or, more seldom, of hysteria. That nervous dyspepsia is always a symptom of neurasthenia has been maintained, and it often happens that nervous symptoms depend on stomach disturbances and disappear when the latter are cured. Nevertheless, in nervous dyspepsia the treatment of the stomach symptoms is very useful, especially when combined with the treatment of the general condition and the pathogenesis.

In all forms of partial death of the stomach there are a

variety of bacteria that put in an appearance. In what is termed mucous dyspepsia or gastric catarrh, the sarcinæ ventriculi are pre-eminent; in chronic inflammation of the stomach there are quite a host of germs present; whereas in nervous dyspepsia there is a sensory neurosis, which differs from all others, even that of chronic gastritis.

Nervous dyspepsia is but a symptom of neurasthenia, an outcome of a poverty of nerve force, a condition of debility oscillating between the brain and stomach. There may be an acidity, subacidity or hyperacidity. A diminution in the amount of the gastric juice, hypermotility and atony are invariably present, with a want of digestive activity.

In the treatment of nervous dyspepsia the stomach merits close attention, as well as the general condition of neurasthenia.

To meet the true pathological condition, the complex symptoms of nervous dyspepsia, one of the most important factors is rest, so as to enable the vital powers to recuperate, to regain their lost vitality. To effect this, nothing is so efficacious as the administration of the ozonized glycerite of pepsin—the expressed juice of the stomach of the calf, taken before its vital elements have escaped, and added to glycerin and ozone—an elegant and most efficacious preparation. A teaspoonful just as the patient commences his meal, effects digestion so perfectly that there is literally no call, no demand for stomach and brain secretion. In other words, those organs have rest for repair.

About one hour before eating, from six to ten drops of the comp. tincture of matricaria added to one ounce of water should be given. Of all tonics it is incomparably the best, the most active in the materia medica, when both the sensory and motor functions of the stomach are out of gear.

Local, persistent stimulation over the region of the stomach promotes a renewal of life in that organ; besides, it is beneficial for its reflex effect. The oil of capsicum is the remedy. The profession has too long been imposed upon by bastard preparations of this oil, which are worthless. The attending physician must be the judge whether this oil be applied in the form of a plaster or by cotton medicated with it, or simply painted on and covered with rubber plaster, either pure or diluted. A form which can be comfortably worn by the patient is best.

To build up vital force and overcome neurasthenia, one week, one teaspoonful of the c. p. solution spermin immediately after eating; second week, substitute one, and one only, kephalin granule immediately after each meal.

By alternating those two wonderful remedies, we bring to bear upon the nervous system of man remedies that fertilize the brain, deepen its typical fissures of thought and, together with bathing, massage, nutritious diet, freedom from care, will by proper management wipe out neurasthenia.

The following are the views entertained by the leading members of our profession on dyspepsia:

DYSPEPSIA.—Whatever diminishes strength impairs health—encroaches on the function of life—hinders perfect solution of food—disturbs the function of digestion. Whatever diminishes, either the secretion from the salivary glands, or the gastric juice, or perverts its quality, deteriorates its solvent properties. Food during digestion is quickened into life, a vital transformation, a nutritive process. Dead animal and vegetable protoplasm is magically endowed with the property of life, for the building up and regeneration of tissue. To effect this we must have a healthy stomach, normal digestion. There must be no altered condition of the mucous membrane (excessive secretion and evolution of the sarcinæ ventriculi), no defect of either the mucous membrane or its nerve supply.

Impaired gastric digestion renders a man feeble—often extremely exhausted; even adapting diet, mode of life to the condition not always curative.

The gastric juice is merely a secretion from the brain, the function of the stomach to evolve it. The activity and integrity of both organs depend upon the quality of blood supplied to them. The quality of blood is determined by the food eaten and assimilated.

Rest by artificial digestion with papoid, comp. matricaria, stimulates both brain and stomach to a higher degree of existence, and are the two best remedies in dyspepsia.

Dyspepsia is a racial characteristic of the to-day American, induced by too hasty eating; the form denominated gastric catarrh is usually the outcome of excessive beer drinking, and when present gives rise to degeneration and atrophy of the gastric glands. Very many cases now arise from adulterated food and the use of chemical preservatives.

Anemia is a very common sequel of imperfect digestion and assimilation; then follows the inevitable nuerasthenia, poverty of nerve force, nervous exhaustion or prostration, a growing

malady in which the vital forces are lowered and every function of the body impaired.

The general treatment is important; cure hastened by the removal of cause, by attention to diet, by the administration of ozonized matricaria before meals and the c. p. solution of spermin after meals—those two remedies, in the physiological and therapeutic action, favor digestion, assimilation and metabolism—their action is immediate and direct—and the vital forces are favorably influenced by them, as they completely overcome the gone feeling, as well as that of exhaustion.

Eminent medical men infer from reliable statistics that indigestion is the most common of all maladies with which the human race is affected; that neurasthenia lies at the origin of every case—once presented it favors the evolution of a large family of microbes, of which the sarcinæ ventriculi is the most common; that it is the toxin of that micro-organism which gives rise to the headache and indescribable feelings of misery.

If the ozonized jelly of ichthyol is used in such cases, it inhibits their activity or destroys them. At all events, it is a good germicide, invariably gives a good result—but its effect or action in fermentations and acid crustations is quite marvelous.

In addition, all of the mineral acids, together with ozone water and ozonized sulphur water, are invaluable in dyspepsia.

Probably no malady is so common in our country as some form of gastric derangement, with all its collateral symptoms of pain, acidity, flatulence. The causes which give rise to gastric disturbance are legion, although for brevity they may be classed under one term, a want of nerve force—a deficiency of nervous power.

Produced generally either by too much drain upon the nerve centres, by either mental application, general exhaustion from any cause, excessive use of tea or coffee, or abuse of tobacco, or too great a strain upon the sexual powers. Unstable conditions of the nervous system induce feeble digestion simply by want of power in the nervous system; with this condition of partial death, this deficient tonicity, evolution of pathogenic bacteria takes place.

The lack of nervous energy gives rise to active bacterial existence with all the well-defined symptoms of dyspepsia; the difficulty may not be gastric alone, it may extend to the intestines. The division of dyspepsia under three distinct heads

is to be commended: chronic gastritis, nervous dyspepsia proper, and gastric catarrh with its pathogenic microbe, sarcinæ ventriculi. In the three forms there pervades each a deficiency of nerve supply; so in each the first thing to do is to correct what is wrong in life and habits, ameliorate all distressing symptoms, rest to the nervous system—rest in the recumbent position—a carefully restricted diet—all indigestible food excluded—any article that had been found by experience to disagree.

In the drug treatment the aim is to increase the nervous power of the stomach, annihilate the germs, so that nerve tonics are invaluable; among these pre-eminently stands ozonized tincture of matricaria—if we were restricted to one remedy that would be the one—it imparts tone to the stomach, cleans the tongue, corrects the disordered state of the gastric mucous membrane, and braces up the muscular coat.

Properly administered in a little water before meals, it never fails to afford prompt relief.

As a rule, pain in the stomach is best relieved by the administration of green root tincture of gelsemium and passiflora incarnata.

Liquor cerii after meals is much more efficient than any preparation of bismuth—it is a true gastric sedative.

A decoction of kaki, given cold, to which a few drops of the peroxide of hydrogen are added, most effectually destroys the sarcinæ in the stomach.

In recommending a diet to our people, who nearly all are dyspeptic with weak hearts, we must forbid the use of the banana as an article of diet. It is simply a large mass of raw starch, containing some sugar and an appreciable dose of nitrite of amyl. Physiologically speaking, it is a vegetable, highly nutritious, but not digested till it enters the small intestine. In its chemical composition it is identical with the sweet potato, which also contains an even higher percentage of nitrite of amyl, which produces such havoc on weak hearts.

Both are contra-indicated in feeble digestion, as they are productive of harm. Comp. tincture matricaria before and a few grains of papoid after meals are productive of much good, and afford relief in the most aggravated indigestion.

For the constipation and general malaise, nothing can excel small doses of the kola-nut paste or kolatina, which vitalizes the enfeebled digestive organs.

EAR, ITS DISEASES.—The auricle, or external ear, forms an important element in man, and serves a variety of purposes, such as the protection of the delicate organ which it surrounds; preventing sensible perspiration, as it trickles over the head, from entering the ear; protecting it from wind and weather, dust and rain, the rays of the sun, and warding off various substances in active life. The mobility of the auricle causes wax to become dislodged and fall out. It also aids in maintaining an equable temperature and a proper degree of natural moisture within the ear, and assists in the catching of the undulations of sound, a sound conductor or condenser, an assistant in transmitting the vibrations to the inner ear. Its uses, then, may be briefly enumerated; to protect the ear and in catching sound, or sound waves, and of aiding in conducting them to the inner ear; it gives knowledge, also, of the direction of sound, and quickens the perception of musical notes. It is subject to all the various diseases of the skin, to various growths and tumors.

The human ear is a perfect instrument of acoustics. Its mechanism is so arranged that the undulations of sound are transmitted or impressed upon the auditory nerve, or brain, in the most definite manner. The brain is the organ of hearing, the ear being simply the medium through which it receives its impressions. This, of course, reduces all diseases of the ear to two classes—the ear and brain. The human ear is subject to the same fundamental laws of physiology and pathology as the rest of the body. This at once simplifies our investigations on ear diseases. Indeed, an overwhelming majority of ear diseases are due to inflammation and its results, and in this process various parts of the organ may be affected; all embraced under one general term—

OTITIS, OR INFLAMMATION OF THE MEMBRANA TYMPANI AND MIDDLE EAR.—Beyond all question, the diseases of the auditory apparatus, which occur most frequently and possess the greatest interest, are the inflammatory affections of the tympanum and middle ear. The middle ear properly consists of the membrana tympani, the tympanitic cavity, the mastoid cells, the chain of ossicles, and certain muscles, vessels, and nerves. In a small, confined space, we have a most delicate, intricate structure, performing important functions; easily disturbed by the standard of health, by a variety of causes, and attaining increased importance from their contiguity to such vital parts as the labyrinth, the internal jugular vein, the in-

ternal cartoid artery; the dura mater, and several venous sinuses of the brain; so when we look at the parts implicated, there should be no apathy in our treatment, no ignorant, officious meddling.

Causes.—It may arise from cold, damp, exposure, rheumatism, gout, boils, injuries, or accidents, injudicious tampering with the ear with hair-pins. It may also be due to extension of inflammation inwards, or upwards from the pharynx, carrying the germs of scarlet fever, quinsy, diphtheria, measles, smallpox, whooping cough, catarrh, pneumonia, bronchitis, influenza, syphilis, mercury, tuberculæ, and the use of nasal douches. When the inflammatory action reaches the throat, it travels along the Eustachian tube, which is the channel designed by nature for maintaining a due equilibrium between the atmospheric and tympanitic air, and for draining superfluous mucus from the tympanum. When all is well it serves those purposes admirably, but when disease exists is serves as a channel for carrying disease germs up from the pharynx. The tube is short, being one and a half inches in the adult, but its continuity of mucous membrane permits an easy road for the germs to travel, and more so if it is a young child, in whom the tube is much shorter and more open than in the adult. Dentition, first and second periods, are productive of inflammation of the middle ear. The vasomotor impressions are readily conveyed from the inflamed gums to the correlated membrana tympani by the dental nerve, and the nervi vasorum of the tympanitic branch of the internal carotid artery. There can be little doubt that the difficult or retarded dentition due to a want of phosphates in the modern mother's milk is a common cause of inflammation of the inner ear. It is impossible to doubt it when we look at the troubled little face, the resting of the head on the nurse, the thrill of agony that passes over its features, accompanied with piteous cries or shrieks when its position is moved, especially if done suddenly; and, more than all, the constant raising of its little hand to the side of the head; all indicate the agonizing sufferings of earache.

Of all living disease germs, those of scarlatina are most destructive to the ear, give rise to hopeless chronic affections, or drift into deafness. The ear, in scarlet fever, is about as obnoxious to irritation as the kidneys, and when we bear in mind that every congestion of the lining membrane of the ear is a true periostitis, and every ulceration a caries of its osseous walls, so that with better care, a true appreciation of germ

diseases, a more thorough antiseptic course, many lives might be saved, useful ears spared, and deaf-mutism become a rare exception.

Symptoms.—General symptoms of inflammation, headache; pain in back, legs; rigors, and a fever; uneasiness in ear, followed by sharp, lancinating pain in the inner ear, increasing in severity; there are also impairment of hearing, giddiness, a sense of fullness in the head, and an increase of pain in moving jaws, mastication, or swallowing, moving the head, or blowing the nose. On examination of the membrana tympani, it is found red and congested. Beating noises in the ears; eyes become injected; countenance anxious; fever greater; function of skin, kidneys, and bowels disordered. There may be delirium or convulsions. There is always great depression and despondency. If case is not seen to, there may be facial paralysis, from a spreading of the inflammation. Should the attack be a slight one, or the vital force vigorous, and treatment appropriate, perfect resolution may take place, but if powers of life are low, suppuration may take place, pent-up pus bursting on discharging itself, if in inner ear, by perforation of membrana tympani; or in more grave cases the inflammatory process spreads into the mastoid cells internally, or by bony meatus to the periosteum, covering the mastoid process externally.

In external otitis, perforation of the membrana tympani may take place, owing to the extension of inflammation from within outwards.

The disease usually runs a very rapid course, suppuration often taking place in from twenty-four to forty-eight hours from its inception, a significant fact for rational and active treatment.

Treatment.—The cause, if possible, should be promptly removed. Then patient should be put to bed in a warm room (70° F.), moist atmosphere, well ventilated, comfortable, and free from all noise, no talking, the greatest quietness; dry heat to the ear and side of head, such as hops, chamomile flowers, bran, or salt, in bags or pillows, made hot in oven; and permit no food requiring mastication, for moving the jaws interferes with the rest of the organ. The fever, as well as the local inflammation, must be regulated by arterial sedatives. To do this effectually, administer a saline purge, or cascara, or both, and enemata, if not soon moved; heat to feet; aconite, belladonna, and veratrum viride. If the skin does not become

moist, compound tincture of serpentaria, so as to cause free diaphoresis; hot drinks; near night either chloral or Dover's powder, so as to get a long sleep. The dry heat is of primary importance and should be watched with care. Never poultice either an eye or an ear is an injunction to be obeyed. One or two grams of the jelly of violets dropped in the ear every three hours will completely alleviate pain. The idea of this line of treatment is, if possible, to prevent the formation of abscesses, or suppuration, as that is a result to be dreaded, as we never can know how, when, or where it may terminate, or to what it may lead. Case, otherwise, should be placed upon alteratives and tonics. If there is a manifestation of gout or rheumatism, colchicum, quinine, iodide of potass; if upon teething, lance the gums; as soon as fever, pain, etc., are relieved, alteratives and tonics.

EARACHE, OTALGIA.—Neuralgia of the auditory nerve is simply the cry of a nerve for better and purer blood. It may be brought about by cold, damp, rheumatism, gout, tubercle, syphilis.

When an attendant upon some acute disease there may be fever, but more generally it is unaccompanied by any febrile disturbance. The intimate connection of the auditory nerve with the various nerves of the face, especially those supplying the upper and lower jaws, the stomach, liver, uterus, render ear-neuralgia common where those organs are out of gear. Earache is thus common, as its causes are numerous and varied.

It is easily recognized by the sharp, lancinating pain in the ear, very severe; frequently also shooting through the nervous filaments distributed over the side of the head and face, causing much suffering and great restlessness.

Pain in this affection is intermittent in character—that is, it comes and goes for no very apparent cause. It is a shooting, not a throbbing, pain; is frequently associated with toothache, but may also be due to rheumatic causes or to the presence of foreign bodies in the ear.

Treatment.—If it is traced to imperfect performance of stomach or liver, an emetic of lobelia, and saline purge; any uterine derangement, compound betin pill; a carious tooth, extraction; or to any special disease germ, treat for its destruction. In all cases, and at once, relieve pain by dropping into the ear either jelly of violets or mullein oil, or both; resting the head on very hot pillows of hops, or chamomile flowers, or bran or salt; or the roasted bulbs of onions; or, better still, gar[1]

In addition, if very severe, the aconite, belladonna and chloroform liniment should be applied to the side of the face; cotton-wool, saturated with concentrated ozone. During the day, aconite and belladonna in alterations with quinine are true stimulants to this nerve, and it is well to give pretty large doses; at night either passiflora or gelsemin, or both, to procure a good night's rest. In the mean time treat the case according to the cause, with alteratives and tonics; and bear in mind that in this painful nerve-cry nutrition is of vast importance.

OTORRHEA, or discharges from the ear, so frequent in young children, must always be regarded as a sign of constitutional debility. It is really a catarrhal or a purulent or muco-purulent discharge from the ear—a sequel or result of inflammation, or a symptom of polypus; granulations; thickening by lymph; sebaceous tumor in meatus; is a common and often stubborn disease.

Causes.—Irritation, inflammation, even if not appreciable, is the cause; so we have to recapitulate the causes of inflammation of the middle and inner ear: teething and scarlet fever in tubercular children; in adults it may depend on gout, rheumatism, syphilis, and other depressed states of the system. The secretion is always contagious, being loaded with bacteria, if muco-purulent; but if very offensive, the oidium albicans are present in it. It may be tinged with blood.

Symptoms.—A mucous or muco-purulent discharge from the ear, either scanty or profuse, occurring all the time or ceasing at intervals. If the discharge is very purulent, that is, loaded with disease germs, it may be corrosive or eating in its character, and destroy the membrana tympani, the bones of the ear, or cause caries of the bony walls of the meatus and tympanum. Disease germs may penetrate to the mastoid process of the temporal bone, or into the petrous portion of the same bone, until the brain or its membranes become involved in the unhealthy action. This event is ushered in with rigors, fever, and marked cerebral symptoms, and ultimately convulsions, coma, and death. Inflammation or abscess of the brain may be induced by extension of disease to the cerebral sinuses and veins, as well as the dura mater. If there is any cancerous cachexia, it may also be developed at this point.

Treatment.—The first point is to wash out ear with tepid water and castile soap, and examine to ascertain if no growths or polypi exist. There being none, the instructions must be to fill the ear thrice daily with peroxide of hydrogen and after

with one grain of jelly of violets. If weather is cold, ear-laps; then place patient on the following alteratives week about in succession: ozonized compound phytolacca, idoide of potass in saxifraga compound. At the same time tonics, as sulphate of quinine and aromatic sulphuric acid, or compound tincture cinchona and mineral acids, or glycerite of ozone. Bowels and skin to be looked after; clothing warm. The diet to be of the best, nourishing, and in abundance—animal food, milk, eggs, fruit. Parents must bear in mind the chronic, stubborn nature of complaint, and persevere. True, other alteratives might be used, and also other tonics, but, as a rule, these will suffice.

EAR MICROBES.—The fungi which affect the ear belong to the family of molds, and are *aspergillus niger, flavus* and *fumigatus,* the first named being the one most commonly found. To the naked eye they appear to consist of a felt-like structure composed of fine filaments, varying in color according to the species of fungus. Microscopically, the fungus consists of thin *mycelia* with *hyphae,* from which extend the fruit filaments. The latter terminate in a rounded capsule (the *sporangium*), on the other surface of which are arranged radially the *condia* or fungous spores. These spores are always present in dwellings, but the meatus does not usually offer a soil favorable to their development, and all attempts to inoculate healthy ears have failed. The presence of cerumen and pus prevents their growth, but serum forms a favorable soil. The fungus is, therefore, found only in eczema of the meatus or where a discharge loses its purulent character and becomes serous. Otomycosis is also favored by instillations of glycerin, zinc, alum, tannin solutions and oil, and also by injuries causing a dermatitis.

The part chiefly affected is the inner portion of the meatus and the membrana tympani; but if prolific, the fungus may affect the whole meatus and lead to obstruction. Unless there is exudation, whitish or blackish (if *aspergillus niger*) spots appear on the membrane or meatal walls. If exudation be present, the meatus contains black-spotted membranous patches. These flakes may easily be mistaken for epidermis or cereum, and the microscope is necessary for certain diagnosis.

Otomycosis may give rise to no symptoms or merely to itching, slight dullness of hearing, tinnitus, and pain of a dull, heavy character. A slight serous exudation may also be

noted. Rarely, perforation of the drum-head and middle-ear inflammation have occurred.

Treatment.—The removal and destruction of the fungus is indicated. The most certain method of destroying the mold is by repeated instillations of peroxide of hydrogen every other day, with the addition of one or two of violet jelly. The fungus, after a few applications, is killed, breaks up into pieces and is expelled. The installation of the peroxide may be continued briskly for a few days, and subsequently at intervals of twice a week for some time.

Foreign bodies in the ear and accumulations of wax are best removed by syringe with warm water.

Insects, which give rise to alarm and pain, best treated by filling the ear with olive oil.

Polypi, when they form in the ear, irrespective of variety, will yield promptly to the introduction of the ozonized oil of thuja.

ECCHYMOSIS.—An extravasation of blood beneath the skin giving rise to discoloration, and usually due to injury. The commonest examples are bruises and a black eye. Ozonized tincture of marigold or oil of anilin and arnica are our best remedies.

ECHINACEA AUGUSTIFOLIA.—Perhaps the most powerful of all vegetable antiseptics in the form of an ozonized concentrated tincture; hence it is of great efficacy in all maladies in which a disease germ is the factor of morbid action.

The ozonized concentrated tincture is a remedy that will cure snake-bites, and is a positive prophylactic for rabies, provided it is administered before swallowing becomes difficult. Judiciously managed, locally and internally, it overcomes septicemia.

ECLAMPSIA.—Convulsions, with loss of consciousness, unconnected with any grave cerebral or spinal lesion, occurring in parturient women. The frequency of its occurrence is one in every 260 labors; it may vary some among different women in peculiar grades and position in life. They may come on the day after impregnation, and at any intervening period during pregnancy; still they are most commonly met with just before labor commences, or during and after it, and the largest proportion, 93 per cent, synchronous with parturition.

Although there is no aura or warning there is likely to be languor, lassitude, debility, headaches, disturbance of vision, flashes of light before the eyes, amblyopia, amaurosis, ringing in the ears, difficulty of breathing, tingling, numbness in the limbs, epigastric pain, steady diminution of urea eliminated, invariably associated with albuminuria, which is always present before, during and subsequent to the attack.

Fifty per cent of all the fetuses die before delivery, usually poisoned by the same causes which produced the eclampsia in the mother, or are asphyxiated on account of deficient oxygenation of the blood, or a too early separation of the placenta.

Complete recovery may take place, or death may occur in spite of the best treatment and most approved remedies. Supersaturated poisoned blood leads to heart failure, gradual asphyxia, lung congestion, puerperal sepsis due to infection.

Puerperal convulsions are nothing more nor less than *toxemia,* the retention of poisons in the blood, which are usually eliminated by the kidneys.

The source of the toxic principle is elaborated in the kidneys, the failure to eliminate is there—the toxicity in the blood is increased, supersaturated owing to renal incompetency—both the brain of the mother and fetus are poisoned by a physiological product. The pungency of this poison can barely be estimated by its action on the brain in the deep coma, constantly recurring convulsions, slowed labor combined with anemia.

If puerperal eclampsia be suspected an effort at prevention should be made. This can best be effected by flannel clothing, most nutritious diet, keeping the skin active by sponge baths at least once daily; stimulating the excretory function of the kidneys by apiol, and the liberal administration of the comp. syrup partridge berry and the insertion and retention of two obstetric cones, one per vaginam and one per rectum, morning, noon and night. These cones vitalize the kidneys, stimulate secretion, aid free elimination; besides they produce absolute anesthesia of the uterine and sacral plexuses of nerves, thus subduing all reflex irritation.

If convulsions have actually taken place, delivery should be effected as speedily as possible; then aid nature in the elimination of the poisonous product from the body through the usual avenues, skin, kidneys, bowels; either a hot or an alcoholic vapor bath is unexcelled; dry cupping over the loins, followed by hot linseed-meal poultices made with glycerin; enemata of pint infusion of flaxseed, to which twenty grains of chloral

hydrate, thirty grains of bromide potassa, half a teaspoonful of apiol solution is added; if there be much congestion, a few drops of veratrum viride should be added, and repeat, if indicated.

Never omit the obstetric cones, both vagina and rectum, and repeat often, as they are a powerful aid in controlling the convulsions.

Once the patient can swallow, saline purgatives with peroxide of hydrogen are excellent.

The patient should be well guarded so as to prevent her doing violence either to herself or others.

The albuminuria of pregnancy occurs independently of heart or kidney disease. Its occurrence in one pregnancy does not indicate its recurrence in another. The trouble is due to the toxin of a micro-organism, a planococcus, an evolution from the products of conception, which gives rise to a toxic condition of the blood, hence the eclampsia.

The cause of the albuminuria in all those cases is the toxin in the blood, which relaxes the vessels of the kidneys, permitting the white portion of the blood to ooze through, a condition which is highly prejudicial to the nutrition of the fetus.

In all such cases, the ozonized celery comp. effects splendid results; its administration vitalizes the kidneys, while imparting tonicity, it increases their action, favors elimination—at the same time is a perfect antidote to the poison.

Albuminuria should be looked for in every case of pregnancy, and if the merest trace of it exists, or can be detected, bear in mind that in the ozonized celery comp. administered, we have a never-failing remedy.

ECZEMA.—The practice of medicine is not now, and from the very nature of the human mind never will become, an exact science. This characteristic it possesses in common with all the sciences and arts that have for their object the welfare and happiness of living creatures upon the earth. The fundamental principles of nature are fixed and certain; those of the sciences likewise to a certain extent, but their development is apparently unlimited, unless it be so by the exhaustion of the ingenuity or the extinction of genius from the human race. Improvement on every side is unquestionably the order of the age in which we live. Man in his advanced state of civilization demands that the talent of the world be at his feet if it tends to make his wealth more abundant, his health more perfect, or his happiness

more complete. Medical men are frequently asked to explain why the advances in the domain of surgery have been so much more pronounced within later years than those in that of practical medicine, not knowing that it is but the untrained eye, the unreasoning or ignorant class of persons, who first give rise to such assertions; for the fact is, that the most pronounced and the most unhoped-for remedies for the cure of disease have been brought forth within the last decade, did the public but know it.

Physicians have but rarely achieved great success by their perfection of medicinal or chemical preparations, nor is it their province to labor in that direction; their work lies in the direction of diagnosis, advice, and administration. The most prominent factor in the advancement and the discovery and perfection of medicine is undoubtedly the chemist. He is continually seeking new remedies that will be adapted to the more rapid and certain alleviation of pain, and the elimination of disease and disease-products from the human system.

To-day the medical profession is not bound down by any set or fixed rules of treatment, but all schools are one in that the honest and worthy unite in doing the greatest good to the greatest number, and in the shortest possible space of time.

Speaking definitely eczema is simply catarrhal, vesicular inflammation of the skin, which, in a typical case, shows a red, irritable, raw-looking surface, from which a fluid exudes which on drying forms scabs or crusts. In advanced forms of the disease the patches become dry and scaly. It is difficult to cure permanently, for, in those subject to it, it recurs readily whenever the skin is exposed to irritation. It is usually due to local irritation, such as the exposure of a part to contact with irritating fluids, etc. Other causes are dyspepsia, gout, and rheumatism.

Treatment should be constitutional and local. The food should be plain and nutritious; stimulants, spices, and rich foods being avoided. Regular exercise should be taken. The medicinal remedies are: In children, thyroid ext. of c. p. solution spermin; in the gouty, colchicum and ozonized uric acid solvent; in other cases, quinine and iron. In chronic cases, cacodylate of sodium is usually necessary.

The local remedies are: In the acute stage, when the skin is red, hot, and moist, soothing lotions—such as solutions of ozonized boroglyceride, borax, bicarbonate of soda, or powders of boracic acid, camphor, etc.—should be applied.

In chronic cases the crusts must be removed by means of a lye poultice. Dermolia ointment or zinc ointment should then be applied. When the inflammation is going down, mild mercurial ointments may be used. When there is much itching and the part is dry and scaly, ointments of tar, creosote, or carbolic acid are useful. Soap and washing in water must be avoided in all cases of eczema. Cleansing may be carried out by washing with milk or weak gruel.

ELDER BARK.—Sambucus nigra is a bactericide of intrinsic value. The ozonized extract of the inner bark is of most therapeutic power and may be administered successfully whenever there be a germ in the blood, such as spyhilis, rheumatism, erysipelas. It is, in addition to its microbicide properties, an active diuretic and heart tonic; hence it is valuable in all dropsies, but especially those dependent upon cardiac and nephritic failure.

Alternated with either digitalis or caffein, or both, its influence or action is greatly prolonged.

A decoction of the flowers make an excellent eye lotion in the different varieties of ophthalmia and a splendid application in erysipelatous inflammation, for it is destructive to all microscopic life, hence the inflammatory condition subsides.

An ointment prepared by simmering either the leaves or flowers of the elder in lard, deprived of its salt, is a most efficient germicide in all bacterial cutaneous affections and in chronic microbic ulcers.

Bacteria of the skin will persist in very many cases after the initial cause has ceased to act.

Even a tonic prepared from the berries is such an active bactericide that, if taken thrice daily, it kills the sarcinæ ventriculi on the stomach.

ELECTRICITY.—When properly regulated, not indiscriminately used, and of an intensity not excessive, is a valuable nerve stimulant and vitalizer.

The forms of electricity that have been found useful in medicine are static, or franklinic electricity, which has an enormous voltage and a very high amperage; faradic electricity, whose voltage is lower and amperage low; and galvanic electricity, whose voltage is low and amperage somewhat higher. The negative spark is always the more irritating, and it should be used only on cloudy days, when it is difficult to obtain proper

effects from the positive pole. When the patient is perfectly insulated and is given static electricity, nutrition is improved and pain relieved. It is especially soothing for those nervous, discomforting conditions which are so hard to reach by any ordinary medical means. If sparks are taken from the patient when in this condition, a wheal is often produced and also a lesion not unlike a flea-bite.

The indirect spark, which is less irritating than the direct, should be used always except on damp days, when it is difficult to obtain the proper charge of electricity. The electric breeze, which is obtained from a charged machine by the use of a pointed electrode, is soothing for local irritation. In facial neuralgia, as well as other localized pains, it often gives excellent results, and often works well for such general conditions as insomnia.

An interrupted electric current is of great service in electrical treatment. It causes contraction of the muscles, but the contraction is painless as compared with the faradic current, and the effect is more diffuse. This current is very efficient in the treatment of such maladies as lumbago, sciatica and other neuralgias, as well as in chronic rheumatism. It has a specific analgesic effect, which makes it useful in most painful conditions. It has been used with marked success for ovarian pain, while stitches of pelvic pain of uncertain cause, and for which it has been difficult to obtain relief, are often completely overcome. It is far better than either the galvanic or the faradic current in such painful conditions of obscure origin.

In general, electricity is good for most subacute or chronic conditions. Static electricity is not a cure-all, and should not be used indiscriminately; but, used with precision and judgment, it will relieve pain in a number of chronic affections. It must be used with judgment.

The faradic apparatus produces excellent effect by the stimulation of atrophic muscles, and in general by its tonic effect on the surface of the body. Care should be taken, however, not to subject weakened muscles to prolonged tetanization by the faradic current. As a general rule, the best number of faradic impulses to allow to pass through a muscle per minute is about thirty.

EMBOLISM; THROMBOSIS; BACILLUS INDICANS.—A thick, clotty condition of the blood, may be the result of malarial or other poisons, non-aeration of blood, defective ac-

tion of the liver, skin, congestion of lungs, and disease of suprarenal capsules.

Incidental to this state, cause or effect, the bacillus indicans appears in the blood.

Its recognition is usually easy, if there be blueness of the ears, nose, lips, nails, peculiar sensations about heart, fainting fits, etc.

In a drop of the patient's blood, the bacillus can be seen in the form of very short rods, with rounded ends.

They are round, ovoid, or spindle-shaped, and have characteristic granular margins, having a strong resemblance to the microbes of pneumonia and rhinoscleroma, both of which are capable of giving rise to the formation of indigo blue, and to indigotic fermentation.

This microbe plays an important part, and determines the formation of indigo in various diseases.

Indigo is a fermentative product due to the action of this microbe.

The indigo-bacillus is pathogenic of various diseases, which are chiefly due to a non-aeration of the blood, bears cultivation well in blood-serum. Cultures injected into any animal give rise to embolism, hepatization of lungs, cardiac apoplexy, visceral congestion, fibrinous exudation.

This microbe is completely sterilized in the presence of liquor ammonia acetatis, in alternation with tincture of belladonna; peroxide of hydrogen in alternation with sulph. quinine; comp. oxygen, ozone water and other bactericides.

EMERGENCIES—HEMORRHAGES.—External hemorrhage must be arrested by pressure, by tying a bandage around limb, and using torsion till medical aid is reached.

HEMORRHAGE FROM THE NOSE.—Raise both arms above the head, apply cold—ice, if possible, to the nape of neck and over nose, and if necessary plug the nostrils with cotton saturated with vinegar.

HEMORRHAGE FROM THE STOMACH.—A solution of common salt; small pieces of ice; gallic acid; digitalis; gelsemium.

HEMORRHAGE FROM THE LUNGS.—A solution of common salt; tincture of iron; digitalis; gallic acid; solution of alum; ice.

HEMORRHAGE FROM THE BOWELS.—Turpentine; sulphuric acid; digitalis; bayberry.

HEMORRHAGE FROM THE KIDNEYS.—Heat to loins; gelsemium in infusion of uva ursi; gallic acid; ergot; if bladder is full of clots, wash it out. Give urotropin.

HEMORRHAGE FROM THE UTERUS.—If it occurs during unmarried life, from fright, shocks: Rest; elevation of pelvis and foot of bed, head low; digitalis; gallic acid; turpentine and sulphuric acid; no hot drinks or food; perfect quiet.

HEMORRHAGE BEFORE DELIVERY. Rest in incumbent posture, hips elevated, foot of bed raised, head low; opium in alternation with the aletris wine; nothing hot, no excitement.

HEMORRHAGE AFTER DELIVERY.—Patient well bandaged from middle of thighs to above the navel; compress over uterus; elevation of hips and foot of bed; no excitement, nothing heating. If the contents of uterus are removed, there is not much likelihood of hemorrhage. If uterus has contracted on after-birth, or a portion of it, plug vagina with a sponge or sponges saturated with vinegar, which will excite contraction, and violent pain, and expulsion. Give uterine stimulants, as capsicum in warm milk; quinine; but avoid ergot, if possible. If uterus dilates sufficiently, remove after-birth, or clots, with fingers. Don't give the turpentine mixture till all has been removed; then it is very useful.

HEMORRHAGE IN WHICH THE AFTER-BIRTH IS OVER THE MOUTH OF THE UTERUS, OR PLACENTA PREVIA.—Plug the vagina with sponges; if that fails, dilate the neck, detach enough of the placenta to admit the hand, rupture membranes, seize the feet, and bring down, and hurry up delivery by internal and local stimulants. There must be no wait or hesitation.

CONTUSION, OR ECCHYMOSIS.—Arnica, marigold, muriate of ammonia, leeches.

EMERGENCIES — WOUNDS. — WOUNDS OF THE THROAT.—Arrest the flow of blood by pressure of the ligature.

WOUNDS OF THE CHEST.—Hemorrhage should be controlled by internal remedies. In some cases the intercostal arteries can be ligated. Wounds of the heart are not always fatal.

WOUNDS OF THE ABDOMEN.—Generally either punctured or incised. If bleeding is profuse, tie the vessels, if they admit of it. If the intestines protrude, return them; and if the wound is not large enough for the purpose, enlarge it. If they are wounded, stitch them carefully up and return, carefully sponging away any blood or escaped feces.

Wounds of liver, kidneys, bladder, are very fatal.

Wounds of the Perineum.—Hurried labor, want of support, ignorant use of the forceps, ergot, and other causes, render the perineum liable to be frequently torn or lacerated. As soon as the lochial discharge ceases, edges to be carefully pared and stitched up.

Gunshot Wounds.—Must all be treated on general principles. The essential features are to rouse the patient from the state of collapse, control hemorrhage, and, when prostration is overcome, foreign bodies, particles of bone, pieces of clothing, bullets, splinters of wood, or other matter, are to be removed or extracted, and the wound treated on general principles, with antiseptic dressing. Patient kept well over on it to allow foreign bodies, or morbid matter, to flow out by gravitation.

Limbs Torn by Marching or Other Violence.—Tie strong handkerchief around sound part, and use torsion to prevent hemorrhage until surgeon arrives.

In all accidents, arrest the hemorrhage before moving the patient. If unable to walk, some conveyance—a settee, or litter, or carriage, according to the nature of the case.

The injured person should be taken to the nearest hospital, or house; clothes ripped up, so as to uncover them and ascertain the extent of the injury; all onlookers excluded.

The great point is, if there is a wound, to arrest the flow of blood by compressing the limb above the injury sufficiently tight until a surgeon arrives.

Foreign Bodies in the Air Passages.—Foreign bodies, as seeds, beans, fruit-stones, buttons, pins, coins, beads, marbles, pebbles, fish-bones, etc., may pass into the larnyx, trachea, and bronchi of children; or vomited matter, pus from abscess, and other substances.

The entrance of a foreign body from without usually takes place during a sudden, strong, deep inspiration. It at once causes violent spasmodic cough, difficulty of breathing, a sense of impending suffocation, or even immediate death. In a few minutes symptoms become less severe; cough and difficulty of breathing return at intervals. If the body remains in the *larynx,* there will be harassing cough, of a suffocative character; loss of voice; an inability to speak above a whisper; pain in swallowing; tenderness; noisy, hissing respiration, with difficulty of breathing. If it descends into the *trachea,* it is seldom stationary, can sometimes be felt by the hand externally to rise and fall; the change in position gives rise to severe spasmodic attacks of difficulty of breathing; a flapping, valve-

like sound, owing to a foreign body being forced against the rima glottidis, in expiration. If the substance passes down the bronchial tubes, it fortunately takes to the right, directed by the bronchial septum. Auscultation and percussion will reveal the point, whether the patient's lung is permeated by air. Bronchitis and pneumonia are now to be dreaded.

Fluids may enter the larnyx, but they usually induce a sense of choking, with convulsive cough, which causes their expulsion; but if very abundant, as in drowning, they may cause death.

Treatment.—If the body be at the entrance of the larnyx, or between the vocal cords, it may be seen, and seized with polypus forceps. This failing, place the child's head downwards, and slap quickly and smartly on back. Emetics, lobelia, and snuffs should be tried.

If the body remains in the larnyx, it should be at once opened, and the substance will probably be either ejected through the glottis or the artificial opening. If successful the opening should be stitched up, and strips of adhesive plaster applied between.

Various other methods have been suggested, as the inhalation of chloroform, hanging patient up by feet, and slapping briskly on back.

FOREIGN BODIES IN NOSE, such as peas, small shot, frequently occur in children. Excite sneezing, or use nasal douche, or, if possible, extract them with the forceps.

FOREIGN BODIES IN THE EAR, such as grains of wheat, barley; slate-pencil, seeds, insects, cause great irritation.

Treatment.—In case of insects, fill the ear with olive oil, turning patient on sound side; or with vinegar and salt in solution, and plug with cotton-wool. Insects will be found usually on the plug. Other bodies must be removed by syringing out the ear twice daily with tepid water.

FOREIGN BODIES IN THE EYES, such as sand, cinders, broken eyelashes, which often lodge on one of the eyelids. In all cases they should be immediately removed, to prevent inflammation.

Treatment.—Invert the eyelids, and remove the foreign body with a small camel's-hair brush, dipped in a solution of one grain of chloride of gold to one ounce of water.

BURNS AND SCALDS.—Vinegar, lard, flour, and eggs are in every house. Put on flour, beat up in lard, thick, covering the burn half an inch. If vinegar is applied, kept constantly wet, white of eggs invaluable, and as soon as the carbolic acid mix-

ture can be procured, let it have the preference for a permanent dressing.

SHOCK, OR COLLAPSE.—Artificial heat to feet, inside of thighs and arms; perfect rest, recumbent posture; diffusible stimulants. If there is no reaction, artificial respiration; cloths, wrung out of boiling water, over heart; enemata of linseed tea, with spirits of turpentine; friction to entire surface; electricity.

SUN-STROKE, in whatever form, is best treated by placing patient in recumbent posture, in a cool room, near an open window; removing his clothes, and keeping tepid water constantly applied to the entire body; bromide of ammonium and tepid water internally, and also by the rectum. Place the greatest reliance upon tepid water and ammonia; warmer water, if skin is cold.

RETENTION OF URINE.—Hot hip-bath, with lobelia; tincture of gelsemium internally; a poultice of hot, bruised, roasted onions to perineum; the running of a stream from a narrow orifice; all failing, catheter.

DOG- OR SNAKE-BITE.—Apply firmly a ligature above the bitten part; bathe it freely with very hot water and echinacea, if procurable. While so doing, chop a few red onions very fine; then mix in some common salt, and bind an inch thick over the wound. A solution of muriate of ammonia answers better for a dressing, if at hand; if so, keep it constantly wet, and the solution as strong as it can be made; keep either applied till the physician arrives. If a *snake-bite,* don't wait, but begin administering half a tumbler of the best brandy or whisky that can be got, every five minutes, till the patient is perfectly drunk.

LIGHTNING.—Usually causes instant death by paralysis; when not immediate, the tissues may be charred, or simply the loss of speech, sight, hearing; or hemorrhage from mucous membrane, from eyes, ears, mouth, rectum. General principles, according to the condition of the patient. Burns treated like other burns; collapse, by stimulants.

EMERGENCIES—INSENSIBILITY FROM MANY CAUSES.—When an individual has been picked up on the road or street insensible, irrational, or inarticulate, and his antecedents unknown, what is the matter? Is he ill, drunk, drugged, or suffering from some brain concussion, or from coma after an epileptic fit, or otherwise?

Syncope, trance, catalepsy, coma, are names used by medical writers to designate states of insensibility, which the public call fits.

SYNCOPE is fainting, a condition of the body in which there is a death-like pallor, with loss of muscular power and consciousness; a faint is usually transitory, due to shock. In it the person collapses, rather than falls to the ground; his knees are bent under him, he subsides into the sitting posture, his head drops forward, and by the time his head has thus sunk to the level of the heart, or below it, the circulation of the brain becomes sufficiently restored for consciousness to return. In a faint, a person seldom bruises his face. Upon waking, he may feel sick, giddy, or alarmed, but his brain resumes its thinking functions at once, and entirely.

Recumbent posture on the right side, articles of dress loosened, dashing cold water on face and front of chest, cautious inhalation of ammonia, diffusible stimulants.

TRANCE is a state of death-like faintness, in which some consciousness is retained, but inability to speak. In trance, the body appears inanimate, there is no power to move a muscle, the limbs are flexible; he may hear, see, and remember all that goes on around him. There is no perceptible pulse or respiration; hence trance has been, and often is, mistaken for death, as the temperature is lowered; muscles react to galvanic stimulus. There should be no hurried burial alive, or post-mortem, unless rigor mortis or signs of putrefaction be present.

Treat same as collapse—artificial heat, enemata of turpentine, cups to both sides of entire spine, over abdomen; and as soon as he can swallow, diffusible stimulants.

CATALEPSY, a rare inanimate condition; insensible, stiff, unable to move, or articulate; pulse slow, respirations diminished; extremities cold and flabby. He or she may be pinched, pricked, beat without flinching—statue-like, but perfect muteness. There is neither the lividity of asphyxia, nor the pallor and general flexibility of syncope, nor the stertor of coma, nor the paralysis of epilepsy, nor the movements and dreamy mental automatism of somnambulism.

Treat same as Hysteria, or Anemia of Brain, Cord, and Ganglionic Centre.

COMA, or deep sleep, may be due to very many causes, as to pressure exercised upon the brain from effusion within the ventricles, and outside of the membranes; to alteration in the molecular state of brain from concussion, contusion, apoplec-

tic extravasation to brain-poisoning by insufficiently oxodized blood; to uremic blood, narcotics, anesthetics, inebriants.

It is impossible to give accurately positive land-marks for diagnosing each kind of coma.

PROFOUND COMA is present in serous effusion into the ventricles of the brain, such as arises from extensive burns, or from tubercular meningitis in later stages. Patient is first sleepy, then drowsy, then stupor, slow of comprehension, difficult to wake, and finally, incapable of being roused at all. The breathing is stertorous; at first he can swallow, then he fails to do so; pupils are not characteristic, most frequently contracted, and then dilated.

COMA, due to fracture or effusion of blood, as in sanguineous apoplexy, is sudden in its advent. The breathing is stertorous, pupils contracted, heat may be normal, skin perspires freely. In fracture of the skull, there is oozing of blood or serum from ear and nose; or there may be blueness, humidity, ecchymosis of the eye, neck. In apoplectic cases, face often turgid with blood.

COMA, due to molecular death of a portion of the brain, the face is pale, heat lowered, pupils unequal, evidence of hemiplegia, or some form of paralysis.

COMA, due to some brain-poisoning, as deficiency of oxygen in pneumonia; nitrous oxide gas; the nose, lips, neck, face, and other parts, are livid, often black.

If patient has breathed carbonic acid gas, say, from a lime-kiln, or sulphuretted hydrogen from some source, those two gases arrest the oxygen-carrying properties of the blood, and this blood-change, or damage, is not recoverable from brain-poisoning; and coma by anesthetics and inebriants is usually detectable by the breath of the comatose person. Apoplexy and dead-drunkenness are often mixed.

IN BRAIN-POISONING, try artificial respiration, abundance of fresh air, cloths out of boiling water over heart; enemata, say, one and a quarter pints of cold or warm water, with a tablespoonful of salt; cups to nape of neck; mustard to feet and hands; free purgation, if he can swallow; suppositories of nitroglycerin.

UREMIC COMA is recognized by edema of eyelids, or extremities; wax-like pallor, uriniferous odor of breath and skin, furred tongue, pearly conjunctiva, dilated pupils.

Try warm bath, free purgation with salines, and hypodermic injections of pilocarpin.

COMA of an epileptic fit is usually recognized by the bruises, torn or soiled clothes; indications, as if the tongue was bitten.

Patient to be placed on right side, clothes loosened or removed; enemata of lobelia, capsicum, and valerian; or hypodermic injection of one-fourth of a grain of sulphate of morphia, if over seventeen years of age; dashing cold water on the patient, of little service.

EMPHYSEMA.—A term applied to the introduction of air, either into the areolar tissue or the lungs.

Pulmonary emphysema is met with in one or other of two forms, lobular and vesicular, the former mechanical, generally due to some violent concussion of the chest or the lung, which produces a laceration and infiltration of the damaged structure by air; the latter to forced inspirations, the distention of a vesicle into the air sac, such as occurs in racing, hoisting, playing wind instruments. In addition to the incidental debility, with dyspnea, slowed pulse beat, lowered temperature, the distention or infiltration can invariably be mapped out by percussion.

When the emphysema is progressive, depending upon bronchitis, asthma, degeneration and atrophy of lung tissue, the necessity for forced inspirations is increased by defect of expiratory power in the lung and chest, insufficient to empty the lungs of residual air, then toxemia is present. Nature, increased vitality, may cure the lobular form, otherwise it is irreparable; whereas, the vesicular is amenable to treatment.

Euphorbia pil. has a marvelous vitalizing action upon the lungs, increases their capacity, their tonicity, their power of expansion; diminishes the calibre of the air sacs, thus relieves the dyspnea and strengthens the action of the heart. It is either administered in fifteen-drop doses of the extract, or in a fifteen grain tablet; whether drops or tablets, it should be given in warm water at stated intervals.

There is invariably a condition of constipation in emphysema; hence enemata of either an infusion of slippery elm or flaxseed should be administered once or more frequently daily, according to indications. After the contents of the rectum have passed, insert a kurchicin suppository, which with the greatest benefit can be repeated thrice a day. With such a simple remedy, that priceless element, human life, can be preserved and prolonged with comfort.

As a tonic in emphysema, matricaria comp. is by far the best.

ENTERITIS (*Inflammation of the Bowels*)—*Causes.*—Indigestible food (especially in children), irritant poisons, alcoholic excesses, impacted feces, peritonitis, and intestinal obstruction. It may be confined to several parts of the intestines, when, according to the situation, it is indicated by such terms as duodenitis, ileitis, colitis, and proctitis.

In simple cases only the mucous membrance is inflamed; in others, the whole thickness of the intestinal wall may be affected.

Symptoms.—Vary according to part affected and the degree of inflammation present. In most cases, severe recurring attacks of colicky pains, tenderness on pressure, flatulent distention of the abdomen, gurgling sounds, and diarrhea. The stools vary greatly, but blood is rarely present unless there be some ulceration. As a result of the intestinal conditions, the general health suffers, and there is fever, anemia, depression, loss of appetite, and progressive emaciation. When the duodenum is affected there may also be some jaundice. When the lower parts of the bowel are attacked there is usually much straining. When the disease becomes chronic, the chief symptoms are prolonged diarrhea and malnutrition.

Treatment.—Light and unirritating diet; select Virginia stone crop, passiflora incarnata, gelsemium, for the acute symptoms; then follow or alternate with the sulphocarbolates of zinc, soda, lime with concentrated ozone over the entire abdomen, changed twice daily; mucilaginous drinks.

Although this affection is regarded as a simple inflammation of the small intestine, nevertheless there is a microbe resembling the comma bacillus either elaborated in the bowels or gains access through the drink or air, for when the dejecta of all cases of enteritis are examined, with the most careful precautions, there is always present a small but very active bacillus.

In cultivation and inoculation experiments it behaves somewhat differently from the micro-organism of diseased meat, and it is undoubtedly a species or a culture of the meat poisoning; a culture of the bacterium coli commune of exceptional virulence and rapid growth; but much caution is needed in such conclusions, because the constant presence of this bacterium, pathogenic to many diseases, makes it difficult to recognize other possible causes of disease in the intestinal contents.

The presence of this germ accounts for the contagious and infectious nature of all cases of enteritis. During the summer

months this affection is exceedingly common; sudden in their seizures, ushered in with rigors, fever, diarrhea, delirium and prostration.

The following remedies met the anticipations of all physicians: One dram of Virginia stone crop, ten drops of the tincture of green root of gelsemium, and ten grains of resorcin; mix. Taken in divided doses, so as to take the entire dose in three hours. Repeat, every three hours, until every vestige of inflammatory action ceases. Then follow with ozone water to prevent auto-intoxication or poisoning.

To weak small intestines, chronic enteritis, can be traced much of that terrible gone feeling, so unusually common among our people, that feeling of prostration or auto-intoxication from poisons of ptomains within the body. The following conclusions have been arrived at: Slowed peristalsis, from debility, gives rise to retention of cadaveric alkaloids which should be eliminated, excreted from putrefactive bacteria in the bowels. Disorders of digestion, anemia and other causes of enfeebled nutrition may thus, as well as disorders of the excretory organs, be indirect causes of auto-intoxication. Fatigue, fasting ,etc., produce diminished intestinal toxins, which, by allowing undue fermentation of the retained dejecta, may produce similar effects. Pathogenic microbes may, by the products of their growth in the body, produce auto-intoxication in another sense.

MEMBRANOUS ENTERITIS.—Numerous cases of this singular malady have come under the cognizance of the author within the last decade, namely, the passage of shreds, mucous casts, passed either at intervals or continuously with every motion of the bowels. Females about the middle period of life, whose nervous systems are deranged or seriously broken down, are sufferers from this malady; also those who are sufferers from genital or intestinal disorders. The passage of this exfoliation in the form of either shreds or casts is usually paroxysmal, accompanied by a good deal of nervous disturbance, abdominal pain, tenderness, and often tenesmus. Whatever amount of abdominal pain there may be is usually relieved by the passage of the membrane. Everything associated with these cases pointed to a marked want of nutrition. As there is little literature to consult, few clinical cases, we must depend almost entirely on the cases as they present themselves.

Presuming there is a microbic evolution, that its toxins seriously invaded the brain cells and produced much of the

trouble, it is advisable in all cases to pursue a germicidal course, under which favorable recoveries are made.

Every morning, immediately after breakfast, an enema, consisting of a pint of flaxseed infusion, to which one tablespoonful of Chian turpentine mistura was added, and thirty grains of c. p. resorcin. This was repeated before retiring at night. Internally, one teaspoonful of ambrosia orientalis was given before meals, and two hours after eating one dram of Virginia stone crop. Very nourishing diet, all of a soft, non-irritating character, was given. Rest in recumbent position.

ENURESIS.—Incontinence of urine may be either diurnal or nocturnal or both. Very common malady among children with a feeble organization, disappearing with puberty or the acquirement of good health.

In the large percentage of cases there is an extreme irritability of the spinal centres, which in itself, without any excessive secretion of urine, may give rise to it.

From maldigestion, errors in diet, we generally find the urine loaded with uric acid and urates, often depositing the former; occasionally an excess of oxalate of lime. Such urine is usually scanty, concentrated rather than copious, which indicates an error in the metabolic process, which may depend on some morbid action, diathesis, or faulty diet. Depreciated health, the index of disordered digestion; then follows a disturbance of assimilation, which is never primary, but the result of an altered state of the blood, which has its cause in the presence of some toxical substance, the proceeds of microbial action.

In some cases of nocturnal enuresis the cause lies in the direct excretion of pathogenic bacteria by the way of the urine—urine thus charged with living bacteria and their derivatives naturally irritate the bladder walls; the spinal centre responds vigorously to the irritation.

The etiology of enuresis is somewhat varied, but there always lurks in the affected child the inherent weakness of organization, either bordering on anemia, tuberculosis, or some neurosis, or displacement of the neck of the bladder. Invariably lithiasis, or irritation of the rectum from worms.

Whatever may be the cause, there is a perfect innervation of the bladder sphincter. Sex exerts no influence on the pathological condition.

A most nutritious diet, daily bathing, followed by massage,

flannel clothing, seaside or country more invigorating than the sewage atmosphere of our modern cities—bladder well emptied before retiring. Ozonized uric acid solvent always; then select either passiflora and gelsemium, or Virginia stone crop, and occasionally tinct. belladonna to cause a slight enlargement of the pupils and dryness of the throat.

EPIDIDYMITIS.—A common sequel or complication of gonorrhea, occurring at any time during an attack, being due to a migration of the gonococci—in other cases, sexual excesses, masturbation, congress with harlots, bicycle exercise, inebriation, may give rise to it.

As a rule, the testis is spared in nearly all cases of inflammation of the epididymis, which is generally the part of the organ affected; usually one is attacked first, later on the other.

The first indication is a dull pain in the scrotal region, dragging of the cord and in the loin; pain in the groin, radiating to the pelvic cavity. By-and-by the testicle may soon assume the same condition; when the pain becomes very distressing, even the tunica vaginalis may be involved.

In epididymitis, the tendency is to effusion of plastic lymph in the interior of the canals, which gives rise to persistent induration, but with good treatment may gradually disappear, but if tampered with may give rise to sterility of one testis, or complete infecundity of both if both are affected, the spermatic fluid being destitute of spermatozoa. If there be induration, the passage of semen is prevented.

Under all conditions, resolution takes place slowly; that condition is generally favored by rest in the recumbent posture—by the administration of equal parts of the ozonized tincture of passiflora and gelsemium (green rad. tinct.) until their physiological action is observed, and then maintained by persevering repeated doses for at least one week; secretion kept active, nutrition never neglected; to the scrotum, guaiacol ointment, spread on lint or cotton, large enough to entirely cover, spread fresh every three hours. By endosmosis, the guaiacol reaches the vital part, annihilates the gonococcus lodged there, excites absorption, promotes renewal of life. This is an undiscovered property in guaiacol, true a germicide, but also an active agent as a cell producer. Strapping the scrotum is a miserable expedient, never attended with good results.

CHRONIC EPIDIDYMITIS.—May be a sequel of an acute attack, or it may originate itself, per urethra, or arise from a mild

form of urethral inflammation, from masturbation, from imperfect or abnormal coitus; or in having congress with prostitutes, or with women the calibre of whose vagina is immense, or from a stricture.

In the chronic form the epididymis becomes enlarged, thickened, hard, knotty, from the formation of fibrous tissue in it; the result of inflammation. The testes are tender, swollen, the cord is enlarged, there is effusion of serum in the tunica vaginalis. In old chronic cases the recently-formed fibrous tissue causes obliteration of the seminal tubules. Atrophy or wasting of the gland is the result.

Effusion of lymph is more rare, and when it does occur it is very prone to terminate in suppuration and abscess. When this takes place, adhesions take place between the skin of the scrotum and the tunica, and the pus is discharged. Occasionally the abscess bursts in the testicle, and is extravasated through its structure. Extremely bad results are liable to follow, which shows the imperative necessity of such cases being managed by skilled physicians.

In all states or conditions, in all forms of inflammation, acute or chronic, affecting either a portion or a whole of the testes, success attends the exhibition of two remedies, namely: the green root tincture of gelsemium and the ozonized fluid extract passiflora incarnata.

First of all have the bowels opened, enjoin rest and the recumbent posture, and administer these two drugs every half hour in average doses, persevering with them, giving all he can bear; the lethal action of the gelsemium in the green tincture is very feeble, still it must be guarded with care, whereas the passiflora can be given freely; just enough of each to obtain their full physiological effects, until resolution is complete. If energetically administered, a short time is necessary.

The action of these two drugs promptly affords resolution. It is a rule of practice that whenever any part of the body has suffered a partial death it is always weak, less vital; but it is marvelous to state that in inflammation of the testes, cared for by these remedies, resolution is perfect.

Guaiacol salve, ozonized, is a remedy of great efficacy, when applied to either an indurated or enlarged testicle.

EPHEMERAL FEVER.—A slight depression of the nervous system, with fever, in which the vital forces react, sometimes in a day, at other times having a variable duration of from a few to ten days.

The cause is usually cold, wet, exposure, overwork, mental depression.

The usual symptoms are, the patient is seized with lassitude and debility, nausea, want of appetite, chilliness, pain in head, back, and limbs. After a few hours rigors and a fever, high heat, frequent pulse and respirations, headache, thirst, constipation, dry skin, scanty urine, perhaps slight delirium; symptoms aggravated at night. After a few days a remission; critical sweating or diarrhea. Convalescence often somewhat slow.

It usually terminates in recovery.

It is easily recognized by its cause, mildness, short duration, by its comon occurrence in children, persons of feeble vital force, and nursing women.

Simply requires rest and a tonic course of treatment.

EPIDEMIC.—Diseases which attack a large number of people in a place at the same time and then disappear. The cause varies with the epidemic, and in many cases is not well known. Predisposing causes are peculiar states of the climate or atmosphere, defective ventilation, overcrowding, impure water, unwholesome diet, starvation, want of cleanliness, and lack of attention to hygiene generally. Most epidemic diseases are also contagious.

EPIDEMIC INFLUENZA.—An epidemic as well as a contagious and infectious disease, one that spreads with more rapidity than any other disease, hundreds being attacked almost simultaneously. It is, without doubt, highly contagious, and the opinion is gaining ground that the germ of the disease multiplies in the air and not in the human body.

Symptoms.—During former outbreaks of influenza the chief characteristic has been a severe catarrh of the nasal and bronchial tracts, with a marked tendency to the development of bronchitis and pneumonia; but in the later epidemics the nasal catarrh has not been so marked a symptom.

The disease begins with fits of shivering, pains in the eyes, frontal headache, and muscular pains in the back and limbs. Fever now ensues, and the temperature rapidly rises to 103° or 104°, but falls as rapidly as it rises. The pains continue, and the patient becomes very weak and prostrated. Besides these common symptoms, there are others which are not so constant, some cases being marked by respiratory troubles, whilst in others nervous and abdominal symptoms predominate. Diar-

rhea, jaundice, and abdominal pain are the chief digestive disturbances. Some cases get well in a few days, whilst others take a long time to get over the disease. Many cases are followed by pneumonia and pleurisy, and during the last epidemic pneumonia was the most frequent cause of death in the fatal cases. It has been noticed that mental impairment, suicide, and even insanity, is occasionally traceable to influenza.

At the commencement of treatment rest in bed, diaphoretics, diuretics, open bowels—administer veratrum viride; if there be great nasal irritation, paint repeatedly inside of the nostrils with jelly of violets. Much prostration, stimulants, nitro-glycerin; bronchial complications, ammonia and passiflora. But the remedy to stand on from the beginning to the cure is the concentrated tincture of kurchicin. It is the only remedy capable of closing the career of this pathogenic microbe; it is the only remedy to ward off complications and prolong life. The dose suitable to meet the inroads made by the germ should be sufficient to maintain gentle diaphoresis.

Cardiac complications of influenza and cardiac influenza, there being a distinction between the two. Under the first heading are included peri-, endo-, and myo-carditis; while the second includes a much more complicated series of alterations in the heart's action through its nervous apparatus. The cardiac rhythm is more or less altered, there being acceleration of the beats, equalization of both pauses, and both sounds come to resemble each other, a condition to which the term "embryocardia" has been given. Influenza would seem to be the disease in which this is most frequently met with, and its prognosis is very grave. The pulse very often becomes irregular in every way; it is frequently intermittent. There may be an extreme degree of bradycardia, the pulsations having been found as low as fifteen to sixteen to the minute. On the other hand, a high degree of tachycardia has been noted by several observers. Extreme cardiac weakness, followed by syncope, is another frequent complication; but the author more particularly draws attention to influenzal angina, which bears a marked resemblance to angina pectoris, with which, indeed, it is probably identical, being produced under the same conditions, and accompanied by the same symptoms. There may be the same pain preceded by a kind of aura and a feeling of constriction of the chest. The duration of these sensations is variable, for the most part lasting some time. The variability of these cardiac affections depends on whether the vagi, the

sympathetic, or intracardiac ganglia are affected, or they may even depend on a bulbar origin.

The indispensable necessity of treating all cases of epidemic influenza by the concentrated tincture of kurchicin and creatinin so as to give tone and vitality to the heart is apparent.

Considerable speculation exists as to the habitat of the influenza microbe during the summer months, when the disease is seldom manifest. Extensive research shows that this germ is capable of existence for a long time in a dormant condition; that they may remain in the system for months, without giving rise to any special symptoms, when all on a sudden it may loom up in a violent outbreak of the disease, either in the individual or in his associates, or in an epidemic form.

The bacillus of epidemic influenza is very variable in size, mode of growth, and the action of its toxin; consequently its mode of seizure is often different. The large majority of cases commence with nasal and bronchial disturbance; others with great nervous depression, headache, languor, debility; some with loss of appetite; scanty, high-colored urine; distressing palpitation, difficult breathing, prostration and extremely copious sweats. The sweats are often intractable and a condition of most profound neurasthenia and goneness, which persists in spite of our best remedies. Sweats, goneness and bronchial disturbance often alternate, one diminishing as the other increases. The toxin affects the nervous system in a most deplorable manner, an utter chaos.

Once I had a case of this description diagnosed. The following has been my method of treatment: Unload the liver, clear out the alimentary canal, and act efficiently on the skin by means of an alcoholic vapor bath, rigidly confining the patient to bed in his apartment, the temperature of which should be kept about 75 degrees F.

I have the patient commence at once with the concentrated tincture of kurchicin in doses of from thirty to sixty drops every two or three hours, according to the indications.

This is undoubtedly the best, most effectual of all germicides to annihilate the germ, neutralize its toxin.

If, from any cause, the stomach does not tolerate the remedy in a liquid form, administer it in suppository, one every two hours.

In sections visited by this microbe, it would be well to have a stock of kurchicin on hand for emergencies.

EPIDEMIC INFLUENZA (*La Grippe*).—Deficient ozone areas,

meteorological, atmospheric disturbances, have given rise to the evolution of a microbe within those areas, which seizes upon and lodges in the weakened respiratory mucous membrane, enters the blood, produces great constitutional disturbance and morbid changes in that fluid.

As far as our microscopical examinations have gone, together with the various culture tests, the germ is found to be pathogenic of the disease, it bears culture well in any gelatinous fluid, which, when fed to rabbits, produces the original disease in all its virulence and malignity.

The microbe belongs to the pneumococcus family, but is a compound conglomerated germ consisting essentially of the croupous bacterium pneumococcus, numerous forms of sporadic germs, cocci, diplococci, short rods, mostly encapsulated. Its presence in the United States has increased the usual weekly mortality of all sections of our country.

The electrical disturbances between the oxygen and nitrogen of the atmosphere give rise to pneumo-paresis, which is the great source of danger.

The treatment in all cases should be the same as for pneumonia—energetic—and persistent use of concentrated tincture of kurchicin, ozonized passiflora and echinacea alternated with sulphide of lime.

EPILEPSY.—Epilepsy seizures are of recent years becoming extremely common, violent and prolonged. They consist of attacks of unconsciousness, with or without convulsions, and in a large number of cases the seizures are preceded by some peculiar sensation or *aura*. Abrupt loss of consciousness followed by tonic or clonic spasm.

The localization of the diseased brain patch is not always easy, as sufficient attention has not been paid to this subject. The initial commencement of the epileptic wave and the group of muscles implicated aid us much, together with the careful applications of the induced electrical current, in singling out the spot.

The etiology of epilepsy is traceable in all cases to some weakened brain patch, acting upon which there is either some central irritation, as an exostosis or clot; or the toxin or ptomain of some disease germ in the blood; or to irritation reflected from some distant part of the body. Whichever of these three causes exist, there is to be added to all the microbe of neurasthenia, whose ptomain gives rise in itself to auto-intoxi-

cation, toxicity of the urine, a condition present in all epileptics as well as in the insane.

Nine cases out of every ten originate either directly or indirectly in irritation of the genito-urinary organs; consanguinity, either by blood or temperaments; alcoholism, syphilis, masturbation or sexual excesses in parents, give rise to an epileptic or idiotic offspring.

The great source of acquired epilepsy is masturbation and sexual excesses in both sexes. This is the goal toward which all who practice self-abuse and libertines are hastening, and one which is reached in a short space of time, when the will power is weakened or destroyed, or inadequate to put a stop to the practice.

In the treatment and possible cure of epilepsy, we must follow the rules of common sense. During the seizure or fit, with muscular system contracted, rigid, with every conceivable form of contortions, foaming at the mouth, unconscious, patient's clothing should be loosened, and the patient placed in such a position on the right side that he or she should be protected from injury, and immediate measures taken to arouse him from the fit; the most available means should be resorted to, such as a hypodermic injection of a quarter of a grain of the sulphate of morphia into the subcutaneous tissue of either the nape of the neck or over the deltoid. A few drops of a one per cent solution of nitroglycerin will answer the same purpose. If neither are procurable, enemata of brandy with a few drops of spirits of turpentine.

Once the seizure or fit is broken up, some remedy must be selected, and persistently administered, to diminish their intensity, abbreviate their length, with longer intervals between, or ward them off altogether. Our preference for this purpose are the ozonized extract of sumbul the œnanthe crocata and the cocain suppository.

Little, very little good results from the exhibition of the bromide of potass or the simulo or solanum.

It must be clearly borne in mind, that the suspension of the seizures does much good in saving the vital forces, preventing exhaustion, and has a good mental influence on the patient, but is never curative.

Pathology tells us most emphatically that there is a brain patch which needs reconstruction, a state of auto-intoxication from the toxins of a disease-producing germ.

The remedies, then, from which curative results are obtain-

able are the organic extracts or brain builders, especially the thyroid extract and c. p. solution of spermin; these two, when administered orally, increase the appetite, promote digestion, augment strength, exhilarate and vitalize mental activity. As their results are visible in wiping out old age, so here in epilepsy they promote a renewal of life in brain tissue; during their prolonged use the brain patch is repaired, besides adding to muscular strength and endurance.

Epilepsy occurring during pregnancy is presumptive evidence of a latent diseased patch of the nerve centres, evoked into activity under the excitement of gestation, and ranks as a peripheral source of irritation. The treatment would be the same.

Interspersed throughout the treatment of a case, light nutritious food, freedom from excitement, woolen clothing, cold shower baths, rain-like in character, friction or massage to the entire body.

The use of germicides aids the cure materially, such as bromide of gold and arsenic; ferratin and arsenic, borax, citric acid, carbonate of soda. If the case is of long standing, and degenerative changes have made a great inroad, bromide of gold and arsenic orally and the cocain suppository are of unexcelled value.

The nerve storm of epilepsy is no doubt often due to alcoholic conception, consanguineous marriages, habits, etc., as 32 per cent of children the offspring of such being epileptic, so says vital statistics.

First and second dentition, the evolution of puberty, are periods when it is most likely to put in an appearance.

In the cure of the epileptoid groups of diseases, we have several remedies of rare value.

The ozonized extract of sumbul administered persistently may arrest the seizures, but it requires the comp. kephalin granules and protonuclein to effect a cure, to repair the brain lesion.

Œnanthe crocata, a remedy of intrinsic value, but highly toxical, must be administered with great caution, beginning with one-drop doses added to water, every three hours, and increasing gradually to thirty or more until its physiological action is obtained in an abrogation of the fits.

Simulo tincture, prepared from the seeds of *Capparis coriacae*, is quite extensively used in the treatment of chorea and epilepsy. Statistics of cases treated with simulo demonstrate it to be a much inferior drug to either sumbul or œnanthe crocata in warding off the fits.

Suppose we take up the entire range of vegetable remedies, we can find none that equals passiflora in epilepsy—the ozonized preparation in a very large percentage of cases not only wards off the seizures, but in itself often becomes curative.

In the present state of medical progress, we must in every case of epilepsy recognize a pathological condition seen only by the microscope, a patch of degeneration of the cerebral pulp, a central phrenal lesion, which may be either acted on by the toxin of some disease germ, or by some reflected irritation.

It may be the toxin of either the bacillus of syphilis, or tubercle or amylobacta or typhoid or leprosy or some other—the appropriate antidote must be pushed. If there be some irritation which can be reflected to the medulla oblongata, thence to the central lesion, as either a fistula, or masturbation or a parasite or any irritation whatever, it must be removed.

There is, therefore, in epilepsy three things essential to complete recovery.

The brain patch of molecular death must be repaired—all toxins must be neutralized—all sources of reflex irritation wiped out.

Since the introduction of the antitoxin-serum craze, the injection of the ptomains of glandered horse serum, for a cure, forsooth, statistics state that epilepsy, cardiac and nephritic degeneration have been doubled.

To repair the brain patch, there can be no doubt of the value of trepanning, if by some means it could be precisely located—of great efficacy independent of exostosis—very highly vitalized remedies, such as protonuclein, ozonized thyroid extract, spermin, kephalin granules—assimilated under the influence of matricaria are excellent.

To cleanse the blood of toxins, a special antidote to meet the peculiar bacterial poison, with ozone water, peroxide of hydrogen, comp. oxygen.

To suspend the impressibility of the medulla oblongata, the best combination is one of one part of the green root tincture of gelsemium and concentrated tincture of passiflora incarnata, which should in all cases be administered liberally in order to obtain a result.

Our present method of treating all epileptic seizures must be enlarged, to meet the pathological condition of a disease much on the increase.

EPILEPSY AND PARALYSIS CAUSED BY THE TOXINS OF DISEASE GERMS.—All authorities admit that in epilepsy there is a

molecular change or death in a patch of the brain, that the toxins of disease germs lodge there, blight for a time, nay, obliterate the mental faculties, as is seen in the nerve storm or fit with loss of sensibility, bereft of consciousness, volition, and for some time subsequently stupid, confused, exhausted. In all epileptics the brain invariably presents signs of degeneracy, want of tone as is visible in the pallor, atrophy, softening; it is a malady, at once the slightest and direst, ranging from mere vertigo to apoplexy, paralysis, mania.

Some very extraordinary results in the way of staving off the attacks or fits have attended the exhibition of the ozonized extract of sumbul in large doses, a teaspoonful every three hours. It relieves the gray matter of the brain of the irritation of the toxins, maintains an equilibrium, thus preventing the liability to sudden discharges of nerve force.

Any toxin that irritates the nerve and brain structures, and provokes a nerve storm, followed by the stupor of exhaustion is damaging, and requires the constructive aid of passiflora and c. p. solution of spermin.

To develop the nervous system, make it grow in the right direction; its physical structure must be protected from all violence, and so educated, that when its growth is completed the intellectual and moral faculties shall be the rulers, and the emotions and passions the servants of the higher faculties; there must be no strain, no friction—nerve food for brain and nerve action—no nerve storms nor tempests to waste and weaken mind and body and destroy the moral nature. To fill this gap administer ozonized thyroid extract, which, if used judiciously to individuals under twenty-one, prevents cerebral bankruptcy.

Changes in the brain cortex are almost invariably present in epilepsy and in paralysis, and as a rule animal extracts, thyroid and spermin especially, do good work in epilepsy.

An eminent physician in Indianapolis, Ind., has cured bad cases of epilepsy with œnanthe crocata, and administered the remedy in quite large doses.

Use only the ozonized preparations in epilepsy and the result will be apparent.

The majority of pathologists are of the opinion that general paralysis is due to degeneration of the brain and entire nervous system, brought about by the circulation of some toxical agent in its interstitial structure, the initial point of attack being in the nerve-cell bodies. To the toxins of some disease germ is at-

tributed the grave changes found throughout the entire nervous system.

In all cases of paralysis it is always of utility to maintain two points of irritation at the nape of the neck on each side of the spinal cord at base of the brain by means of the old cantharidal plaster. Simply irritation, no vesication, its application for a few hours twice a week will be sufficient; it will undoubtedly excite leucocytosis, but it almost invariably attracts the toxin from the weakened brain patch; it must be kept up for months, nay, years. New remedies, germicides, will have an opportunity to do their work.

If it be possible to ascertain the toxin present, it will be a valuable aid to the selection of the proper remedy. If it be the toxin of syphilis, periodate aurum and comp. saxifraga; if it be the toxin of the microbe of neurasthenia, kephalin, avena and ozonized phytolacca; if it be the toxin of the bacillus of tubercle, glycerite of ozone is indicated.

Effusion on the base of the brain, due to a clot, an effusion of serum, a mechanical condition, requires iodide of potass and periodate aurum.

There is little doubt that general paralysis as well as ataxia are mainly dependent upon the toxin of syphilis. There is no doubt that either the cure or prevention of syphilis would be followed by a very general disappearance of paralysis. Stamp out syphilis and it would cease to exist. In countries in which there is no syphilis there is no paralysis. The true etiology of paralysis, its predominating factor is the toxin of this germ.

Every man or woman who contracts syphilis is liable to have degeneration of the brain or spinal cord, the initial point of deposit of the toxin is some weakened part of the nervous system.

EPISTAXIS.—Hemorrhage from the nostrils is often due to mechanical violence; very common in patients of a plethoric habit, sanguine temperament; in girls about puberty.

In the adult, epistaxis is often a grave affection, pointing to disease of a serious character. It may be an indication of one or two diametrically opposite conditions; either plethora with a tendency to cerebral congestion and apoplexy, or to anemia and cachectic conditions, in which the blood is poor, watery, destitute of fibrin, its coagulation imperfect.

In nearly all cases, nasal hemorrhage is preceded by headache, fullness in the head, ringing in the ears, contracted pupil and disordered vision.

Nasal hemorrhage, due to plethora or congestion, may to a limited extent be beneficial, relieving the volume of the blood from an excess. Even this must be guarded against by raising the arms above the head; by applying cold to the nape of the neck and root of nose. And if these do not quickly succeed a spray of peroxide of hydrogen or perchloride of iron, both by mouth and nostrils. If they fail, plug nostrils.

Nasal hemorrhage in delicate, anemic or aged individuals, is a condition of much importance, often fatal, and requires such remedies as creatinin, thyroid extract and c. p. solution of spermin with rest, nutritious food, fresh air, sunlight.

Nasal hemorrhages (vicarious) in young ladies at puberty and at all periods of life till forty-five years, uterine suppression from cold and mental shocks, etc., the comp. betin pill, thyroid extract, protonuclein, are unsurpassed in their action.

Nasal hemorrhages due to the blood changes in scurvy, give chlorate of potassa in lime juice, and strophanthus.

Due to the pathological condition in purpura, digitalis and ozone water.

Nasal hemorrhages, a precursor of fevers, typhoid and typhus, toxins affecting the brain becoming rare as the treatment by intestinal microbicides is pushed, with abundance of fresh air.

In organic cardiac, hepatic and nephritic affections, the nasal hemorrhages are always associated with a broken down condition of the system. In these cases the application of ozonized turpentine over the region of the liver is usually effectual in arresting the hemorrhage; a mixture of equal parts of alcohol, turpentine and nitric acid, mix carefully, a few drops in iced water occasionally, is an excellent hemostatic. Creatinin will do much for the heart; ozonized uric acid solvent is of great efficacy in kidney disease.

Perhaps the most remarkable cases of epistaxis, which occurred in 1897, were those of a mohair factory in Connecticut, in which 500 female operatives had a daily attack from inhaling the dust together with the spores of anthrax from the imported wool. A spray of fifteen vol. sol. c. p. peroxide of hydrogen relieved the condition.

ERIGERON CANADENSE.—An annual, indigenous plant of North America. Common name, Fleabane.

Therapeutical Uses.—A tonic, diuretic astringent. A volatile oil of the terebene species is distilled from the fresh, flow-

ering herb, which is an active hemostatic to the uterus and bronchial mucous membrane.

Preparations and Doses.—Fluid extract, 30 to 60 drops; of the oil, 5 to 8 drops on sugar, and repeat.

The action of this oil resembles a mixture of equal parts of spirits of turpentine, alcohol and nitric acid, an instantaneous uterine astringent.

ERUPTIVE FEVERS.—The principal diseases of this class have some features in common; they are each due to the presence of a living germinal poison in the blood, which has a definite period of germination, called incubation; they are accompanied with fever, which runs a precise course, are attended with an eruption, at which period the germ seeks the surface for oxygenation, where they either destroy the cuticle and peel off, or gather in colonies and form vesicles, pocks, or scabs; those changes are regular and definite—for the most part, the germ uses up in its own nutrition and growth certain elements in the blood, which seldom if ever aggregate in that fluid again; hence, as a general rule, the patient is subject through life to but one attack.

They all arise from a special germ, whose progress can be in some measure arrested or cut short, their severity mitigated, modified and even abridged by proper remedies, thorough nursing, and attention to certain rules.

The diseases of this class are measles, rotheln, scarlatina, and smallpox.

Disease, measles; germination, 10 to 14 days; eruption appears, fourth day of fever; eruption fades, seventh day of fever.

Disease, scarlet fever; germination, 4 to 8 days; eruption appears, second day of fever; eruption fades, fifth day of fever.

Disease, smallpox; germination, 12 days; eruption appears, third day of fever; eruption fades—scabs form on ninth day, fall off fourteenth to twenty-second day.

If either of the above three forms of eruptive fevers is conveyed from an opposite or antagonistic race of men, the germ takes on inordinate activity and malignancy.

ERYSIPELAS.—A peculiar form of disease due to perverted nutrition, malnutrition induced by deleterious food, sameness of diet, in which the evolution of a microbe takes place, which gives rise to both local and constitutional symp-

toms. Usually one precedes the other, or they may appear simultaneously.

The constitutional symptoms are rigors, derangement of the stomach and bowels; pain in the head, back, calves of the legs; lassitude, drowsiness, anorexia, nausea, vomiting, tongue heavily coated with a heavy brown coat; constipation, motions, if any, are very offensive; urine albuminous, turbid, or saffron colored; pulse full, oppressed or irregular.

As a rule the microbe seeks the skin for free oxygen, and in doing so its toxin excites inflammation of a peculiar character, tense, burning, stinging, redness diffused throughout with a tendency to spread itself widely. As a rule the redness is not intense, either pale or rose colored, of a pale yellowish hue. Redness disappears on pressure, but immediately returns.

Edema to some extent is always present; delirium if about the head or face.

The speedies way to eradicate this microbe is to administer an emetic, open the bowels with some remedy to rouse up the action of the liver, and a vapor bath.

To the skin apply cloths saturated with a warm solution of boroglycerid, covering over with oiled skin or some impermeable covering. Internally, select a good microbicide and administer faithfully; select one or other of the following: ozonized glycerite of sulphur, matricaria.

Creosote, both internally and locally, is inimical to the micrococci of erysipelas. The mistura creosote with negative ozone is unsurpassed internally, under it the tongue cleans, and all the symptoms subside; locally, add one ounce of the mixture to one quart of water; saturate cloths with this solution and apply over the erysipelas blush. Keep it constantly covered and always wet. It can be added to slippery elm powdered, and made into a poultice and applied, and renewed every three hours, strength regulated according to the virulence of the attack. The germicidal properties of the remedy are immense, not only in the complete destruction of the germ, but in abrogating all tendency to suppuration.

As a sedative in erysipelas, give passfliora incarnata in large doses, and alternate with comp. tincture of matricaria.

Rest, nutritious diet, avoidance of all insanitary conditions.

ETHER.—Sulphuric ether. A colorless, volatile, inflammable liquid, with a characteristic odor, which is obtained by acting upon alcohol with sulphuric acid and then purifying.

Ether is used as a local anesthetic, particularly in carrying out small operations. It is applied by means of a spray, which is directed on the part. The rapid evaporation which ensues freezes the part, and makes it insensible to pain. Taken internally, it is stimulant, antispasmodic, and relieves flatulency. It is useful in bronchitic asthma, particularly when given in the form of Hoffman's anodyne. When inhaled it acts as a general anesthetic, like chloroform. It is safer than chloroform, but is more unpleasant to take, causes great lividity of the face, often some bronchial irritation, and is more liable to be followed by vomiting.

EUCALYPTUS.—A tree which grows luxuriantly in Australia. There are two varieties, the blue- and red-gum—the *Eucalyptus globules* and the *Eucalyptus rostratus.*

Therapeutical Uses.—In all its pharmaceutical forms it is a powerful bactericide, sterilizing and destroying disease germs. Its properties have not been so greatly valued, as a germicide, as they should be.

Administered in large doses it paralyzes the medulla, lowers heat, and slows the pulse by its microbicide properties; increases the excretion of urea. The red gum has been found valuable as an astringent, especially in throat affections.

Preparations and Doses.—Eucalyptus oil, a distillate of the fresh leaves, good for inhalation, in phthisis, scarlet fever, and diphtheria; an ozonized distillation destroys the gonococcus of gonorrhea. Fluid extract, from 30 to 60 drops. Syrups, bougies, pessaries, lozenges, etc., are all prepared; the honey is also used.

A distillation from the fresh leaves, ozonized. Dose: Add one fluidounce to four fluidounces of water. For external use only. In gonorrhea, used as an injection after urinating, or three times a day; for leukorrhea, use an injection by fountain syringe, morning and night; for ophthalmia, keep a cloth constantly wet with it, loosely applied to the eye. An energetic agent, to destroy the germs of gonorrhea and leukorrhea. It not only destroys the germ, the factor of gonorrhea, but its use before a suspicious connection acts as a prophylactic. In the various forms of purulent or gonorrheal ophthalmia, it completely kills the bacteria or gonococcus present.

EUPHORBIA PILULIFERA IN ASTHMA.—This is one of the safest and most efficacious remedies in the relief of

asthma. Every physician who prescribes it finds it successful in relieving the paroxysm and in inducing sleep. No drug has given such satisfactory results, being a safe remedy the afflicted individual can use it with perfect freedom. It not only relieves the spasm of asthma, but it induces tranquil, refreshing sleep without any objectionable after affects. Its prolonged use never gives rise to a habit, and on this account it is a most desirable drug.

The administration of euphorbia pil. in asthma is of vast importance (1) in breaking up the spasm, (2) in obtaining sleep, thus saving unimpaired the vitality of the affected. The drug occasionally causes sickness; although disagreeable to the taste, it can be administered in simple elixir and its pungent flavor disguised.

Easy breathing, diminished respiration, tranquil sleep are to be obtained from its use. No doubt a large amount of the drug is excreted by the lungs, and its vapor exercises a narcotic influence on the terminations of the sensory nerves in the lungs while it is being expired.

One can readily understand that by its double action of inducing sleep and preventing pulmonary spasm euphorbia has such a powerful effect for good in asthma.

EXTRA-UTERINE PREGNANCY.—Every pregnancy is the result of the impregnation of the ovum of the female by the spermatozoa of the male, and the normal place for the development of the impregnated ovum is the cavity of the uterus, while the channel through which the ovum must pass from the ovary in order to gain the uterine cavity is the Fallopian tube. The tube is specially fitted to be the cannel for the reception and transit of the ovum. The delicate plications of its mucous membranes are seen best when floated under water, forms one of the lightest and most ethereal of resting places, while the innumerable cilia of its epithelium, waving always towards the uterus, tend to sweep the ovum onwards and outwards. These plications, with their waving cilia, are not confined to the tube itself, but are continued over their fimbriated extremity, into the peritoneal cavity to the ovary itself.

Ovarian fimbria are remarkably full, broad—a complete apparatus for the direction of the ovum—marked and ceaseless from the ovary to the tube. No fixed place where impregnation occurs—anywhere during its descent, whether in tube or uterus it is possible for conception to take place. Normal impregna-

tion occurs only in the uterus—fertilization in the uterus. The ciliated lining of the Fallopian tube prevents the spermatozoa from entering. Fructification, the union of the ovum with the spermatozoa, may retard a movement.

EXTRACTS (*Animal*).—The ozonized glycerated extract of the peptic glands of the stomach; pancreatin the active principle from the sweetbreads. The former a good digestive agent, the latter the emulsifier of oleaginous products. The ozonized extract of the thyroid gland of the lamb, a promoter of growth of every tissue in the body, and the c. p. solution of spermin, the breat vitalizer of our race, are reliable remedies; but we must admit, after careful and extensive clinical tests, that all others are worthless.

All animal extracts must be administered orally, never subcutaneously. Undoubtedly one of the greatest professional blunders of the present age is the hypodermic injection of these extracts into the cellular tissue of the body. Take spermin as an example, injected subcutaneously, it is a violent irritant, whereas if administered orally, with two doses of thyroid extract weekly, it is the great reconstructor of vital force—a stimulant and builder of all the tissues of the entire body—that which gives the snap, the push, the energy and ambition.

The growth, vigor, even the prosperity of our nation depends entirely upon spermin, the most precious substance in animated nature; if it be drained off, effeminacy, neurasthenia, cowardice are the result.

Spermin in the male, ovarin in the female, identical chemically, is produced and circulated in the body of every individual, and is a most important factor in the healthy performance of every organ; neither life nor vitality without it.

In speaking of the c. p. solution of spermin prepared from the testicle juice of the bull, as a vitalizing agent in both health and disease; in the former its use renders the vital forces of the body impregnable to all disease germs; they may find an ingress, but there is no growth; in the latter, its use is not limited to any special disease, being of utility in every deviation from health. It is a reconstructive in all diseases, indispensable and necessary to aid the vital forces to recovery.

As a constructive agent, spermin is of the greatest efficacy as a remedy in all exhausted states; imparting strength, decreasing nervousness.

It is a most important medicament in all diseases, and espe-

cially those in which the oxidizing power of the blood and nervous system is impaired.

EYE, THE.—The eye has good defensive arrangements, a natural formidable barrier to the ingress and advance of the bacillus of tubercle and syphilis.

The natural fluids of the eye are inimical to and hinder the growth of the micro-organism, the connective tissue cells are unfavorable to them, besides the phagocytic destruction of the bacilli by the leukocytes.

True, in an intense tubercular diathesis the germ localizes itself upon the conjunctiva, but even there the nidus is unfavorable for growth and reproduction, so multiplication is arrested. The eye, therefore, possesses an immunity to both of the leading microbes.

Removing all insanitary states there would be little, if any, tubercular ophthalmia or syphilitic iritis, for both germs are incapable or reproducing themselves by aerial infection.

Different, indeed, is the mouth in tuberculosis, syphilis and cancer. A perfect breeding pond, its secretions, if the microbes be present, expectorated on pavements or floors, sputum dries, germ liberates, gets freely blown about and comes in contact with other people's tissue. It cannot reach them in an active state. The infectious agent becomes harmless in the presence of nature's disinfectant, light and air, oxygen being the chief agent inimical to microbic growth.

No medical agent has demonstrated itself of such boundless efficacy in the effectual cure of all eye and mouth diseases as comp. saxifraga, alternated with either quinine or comp. kurchicin. As an eye lotion, chloride of sodium; as a mouth wash, solution of chlorate of carbon.

In hereditary tuberculosis, syphilis, cancer, where either germ is transmitted by either or both parents to the offspring, either at the date of conception by sperm or germ transmission, or through the placenta, the periodate aurum completely annihilates it.

Eyes Damaged.—Masturbation is destructive to vision, alcohol equally so, deteriorates the brain and mental capacity; nicotine as well as all acro-narcotic drugs are injurious to the eyes, also the indiscriminate use of quinine.

The wearing of tight neckwear injures the eyes from a slowed circulation.

Excessive use of the eyes in study, in crowded school-rooms,

with an atmosphere reeking with bacteria, is productive of ophthalmia. Nets in windows and veils are destructive to vision, most objectionable; the dotted texture plays a part, in embarrassing vision to an appreciable degree.

The brain of man does not see well through the optical instrument, the eye, when its finer mechanism is blunted by any of the coal-tar derivatives, such as antipyrin, phenacetin. Brown- and dark-colored eyes are most susceptible of injury, as they are much weaker than blue or gray eyes. The lighter the pupil blue and gray, the greater is the tension which the eyes will sustain.

Bathe all damaged eyes with a hot solution of boroglycerid. This is a safe remedy, and can be entrusted to the nurse—it vitalizes, contracts the blood-vessels in and about the eye, strengthens the tissues, washes away all germ secretion, promotes a healthy reparative process, relieves the leading symptoms, whatever they may be. In the entire materia medica no remedy in essential efficacy can compare with passiflora incarnata in the improvement of vision—a prolonged course of a few months works wonders. Kephalin ranks next best as an eye tonic.

FAINTING, OR SYNCOPE.—A sudden partial or complete loss of consciousness. The immediate cause is a diminution in the amount of blood going to the brain, and this naturally depends, in the majority of cases, on a diminished action of the heart. Nervous, circulatory, and respiratory functions either cease or are greatly lessened in strength. Fainting arises from sudden mental shock, severe pain, loss of blood—in fact, anything which lowers the vitality of the system. Just before the fit there is a sensation of tingling in the extremities, noises in the ears, a blurring of the sight, and a general deadening of the senses. There is loss of control over the muscles, and the patient falls to the ground. When due to brain disease, cardiac disease, or in old and feeble people, death may occur from syncope, but in most cases the fainting soon passes off.

Treatment.—The patient should be placed on his back with his head lower than his feet, his dress opened at the neck, ammonia applied to the nostrils, cold water thrown over his face and neck, and, if possible, given him to drink *in sips*.

Glonoin, either on the tongue or by suppository, is our best remedy to arouse the patient.

FASHIONS IN MEDICINE.—Vaccination is a fashion to which the medical world tends. We naturally ask, Has it been a prophylactic in variola? Has it been productive of good? Has it rendered the action of the micrococcus less virulent? or in any way mitigated its destructive action upon the blood and tissues? Can we demonstrate or even assert that it has eaten up the pabulum in the blood upon which the microbe subsists? Has the deadly, fearful scourge been lessened? Most assuredly not. Variola is neither modified, mitigated, nor its fatality less, these 220 years. Pause, look at its inner workings, and we are led to say, that it is the greatest curse ever imposed upon the human race; it has been productive of more disease, crime, suicidal mania, vital deterioration and premature death than any empiricism in medicine.

Vaccination from cultures of the pathogenic microbe, the venereal bacillus, has been extensively tried, and in every case the most disastrous results have been engendered.

Inoculation, for rabies, with minimized attenuations of the bacillus of hydrophobia, taken from the spinal juice in close proximity to the medulla oblongata of a victim of the microbe, is simply a delusion of a vitiated intellect of a man who loves to keep close by the public crib.

The next proposal is inoculation with cultures of the tubercular bacilli, as a prophylactic against tuberculosis. Let us pause, hesitate before such a measure, or any proposed extension of inoculation for a disease,—the product of neurasthenia or impaired vital force.

Then comes the glandered horse serum for diphtheria—the serum of the ass and goats' blood-serum for mental lethargy, exceedingly *fashionable*. If you have an ache, a pain from intestinal toxins, from eating canned food, it is very highly fashionable to have your appendix removed.

We do not endorse inoculation methods; there is something filthy in it; something degrading; nay, derogatory to the very essence of humanity. There is no resisting power in it; it affords no immunity against the disintegration of vital force, or the evolution or ingress of a microbe.

We advocate the administration of bactericides in all diseases, either by the skin, bronchial mucous membrane, mouth or rectum. If we have a bactericide like the glycerite of ozone, guaiacol, etc., which will augment vital force, and at the same time sterilize or destroy the microbe, the factor of morbid action, then that is the remedy demanded.

FATTY HEART.—General obesity, due to excess of eating and drinking, is usually associated with gout, in which the adipose tissue is deposited on the heart muscle, whereas when due to other chronic poisoning, or to the toxins of typhoid or puerperal fever, fatty degeneration of the muscle is the rule.

The efficacy of the ozonized succus or juice of the ripe phytolacca berry, slightly touched by frost to temper its asperity, is attested by all careful observers, in doses of from two to fifteen drops, in all cases of fatty heart. A safe reliable remedy for the removal of fat. Bowels and kidneys must be kept active, the former with kola-nut paste, the latter with sulphate spartein: sulphate of spartein ten grains, water two ounces, mix. Three- or four-ounce drop doses at stated intervals.

Caffein and creatinin are two of the best heart strengtheners; brace it up; promote its nutrition. They in all cases should be administered in alternation with phytolacca berry juice.

There must be an avoidance of all amylaceous and saccharine substances in diet; alcohol, wines, beer, tea, tobacco are forbidden.

If any other remedies are indicated, try comp. matricaria, a heart tonic of inestimable value, one that acts upon respiration, digestion and assimilation.

FERRATIN.—Animalized iron, extracted from the liver of the calf, prepared under the most careful antiseptic precautions and only in tablet form, when administered exhibits in a most remarkable degree the antiseptic function of the liver, possessing germicidal and neutralizing properties. It is an antitoxin; administered in chlorosis and pernicious anemia, it kills the poison by transforming it and eliminates it from the body.

Animalized iron is a vitalizing remedy, absorbed promptly and most effective in aiding the reconstruction of the blood. Probably the best effects are visible in chlorosis, a morbid condition peculiar to woman, but its occurrence among neurotic males, with effeminate cachexia, is common. The blood in these cases indicates anemia in which hemoglobin is diminished; the most brilliant results are obtained by the use of ferratin, which is promptly absorbed.

Myopic vision, common in all our large schools and tenements, often due to sewer gas, eye-strain in gaslight and burning lights in sleeping apartments, masturbation, auto-intoxication from toxins in constipation give rise to myopic eyes; often due to anemia, the outcome of overlactation or albuminuria. In

all such cases for the removal of cause, administer kola-nut paste for defective peristalsis and give ferratin to vitalize blood and optic nerve.

Animalized iron isolated from the liver of the calf—a food product, an article of nutrition.

Ferratin is found in both the animal, vegetable and mineral kingdom, but that extracted from the calf's liver has immense bactericide properties, which neither the vegetable nor mineral ferratin possesses. Besides it completely antidotes the sulphuretted hydrogen generated in the intestines.

The essential property of animalized iron or ferratin is its remarkable faculty in increasing both the red and white corpuscles of the blood; in strengthening them so much as to repel the ingress of all disease germs.

Animal ferratin agrees well with patients, no matter what may be the trouble, never a symptom of digestive trouble, that necessitates a suspension of the remedy; it is essentially a reconstructive and curative agent; increases the appetite, which is always precarious and capricious in anemic patients.

It is a remedy of intrinsic value, indicated in all debilitated states of the body, but especially in anemia and chlorosis, in which the red corpuscles are diminished.

It is well for the profession to understand, that the physiological properties of animalized ferratin cannot be replaced by any other preparations of iron, either mineral or vegetable, and they will be disappointed in its use, unless they prescribe the genuine.

A very eminent practitioner says that his experience in the use of ferratin is: "That it increases the secretion of the digestive fluid, relieves congestion of the mucous membrane of the stomach and bowels, and restores the assimilative functions to a normal condition, being thus a remedy for indigestion and malnutrition."

One excellent feature of ferratin is that it agrees well with all patients, without exception. Its exhibition changes and renovates the blood and improves the general health.

FETATION (*Extrauterine*).—Pregnancy out side of the uterus. Withdrawal to prevent conception. The relation between the unnatural pregnancy and the unnatural coitus is not a mere coincidence. The very frequent occurrence of extrauterine fetation at the present time, is the definite result of the adoption of certain means to prevent conception.

There is a distinct relation of cause and effect between the unnatural coitus and unnatural pregnancy.

Warn individuals of the serious risks they run when they seek to avoid parental responsibility. The practive involves most disastrous results to the male as well as the female.

FETICIDE.—The moral atmosphere of the American female is tainted by a variety of causes, habits, association, system of living; laziness, amusements, and literature. The latter especially is exercising a baneful influence on her; our modern periodicals and dime novels, the press, that great engine of thought, progress and vitality, sways a corrupt, reckless, and unscrupulous influence, and aids her demoralization by advertisements, and otherwise; nay, may be regarded as irreverent, offensive, and profane; an eating ulcer in the female economy —fostering a state of things that is sapping the very vitals of our country—one of the most serious and sinister symptoms of general national decadence. Married women trying to escape the cares and responsibilities of mothers, betokens a serious derangement in the body politic, and more so when the entire force of female character is permeated with this one idea, and our clergy powerless to stem this current of national crime. The number of abortions committed in our large cities is enormous; the uninitiated can have no conception of the immensity and gigantic proportions of the crime. Out of the eighty thousand so-called physicians in our country, one-half, at least, are either open or concealed abortionists. There is no crime so common as feticide; even some druggists and herb dealers could not maintain an existence but by selling drugs to procure abortion. The crime prevails largely, and enters like an eating worm into every condition of society and threatens our very existence as a nation. The abortionists are plying their fearful calling with frightful activity, and measures should be taken to arrest it. Our people should be instructed regarding the sanctity of ante-natal life, and the fact that there is no distinction in the turpitude of the crime of the destruction of ante-natal, or post-natal existence. The induction of criminal abortion should be made a capital crime, and any one who knows of its commission made accessory to it.

The induction of abortion is only legitimate when the life of the mother is imperiled by a continuance of pregnancy; that the emptying of the uterus presents itself as the only alternative to save her.

Abortion is the most terrible calamity that can befall a pregnant woman, and it is doubly worse when brought about by malpractice; the number of morbid conditions that follow it are beyond all calculation. The following may be enumerated as a few results that are likely to follow: It gives rise to a habit which nothing can overcome; it causes painful sitting, painful sexual connection, intrauterine catarrh, catarrh of the neck, falling of the womb, neuralgia of the ovaries, nerve-exhaustion, aching kidney, irritable bladder, ulceration of the uterus, cancer.

FEVER.—This term is applied to any diseased condition characterized by undue elevation of temperature. The normal temperature of the body is 98.4 degrees F., but even in health there is a daily variation of from 1 degree F. to 1.5 degrees F., the temperature being higher towards evening and lower in the morning. Very slight variations also occur, due to food, physical exercise, the surrounding temperature, etc.

Heat is produced in the body by the oxidation of the tissues and food, which is concomitant with all forms of bodily activity. Heat is most largely produced in the muscles and the liver. Heat is lost constantly by the excretions, by the lungs in expired air, and largely by evaporation and radiation from the surface of the body.

Both of these processes—those of heat production and heat loss—are under the control of the nervous system, and the state of equilibrium between them represents the normal body temperature. When this equilibrium is upset or disturbed, the temperature rises and fever is the result.

If the temperature be below 101 degrees the fever is slight, above 104 degrees is severe, and above 106 degrees it is very dangerous, and is known as *hyperpyrexia.* In all fevers certain symptoms are always present. The skin is hot, dry, harsh, and pungent, but in some cases there may be profuse prespiration. Headache, giddiness, restlessness, want of sleep, and delirium are common nervous phenomena.

The pulse and respirations are increased in quickness. The tongue is coated, the mouth dry, there is great thirst, loss of appetite, nausea, and constipation. The urine is scanty and high-colored. General emaciation occurs in proportion to the fever. A *rigor* or *chill* usually ushers in the rise of temperature.

These usually begin with a precursory stage—lasting some

days of nerve depression, pain in the head, back, and limbs; a coated tongue, loss of appetite; arrested secretions, with languor; subsequently a chill, or rigor; then fever, lassitude, debility, headache; quick, hard, full pulse; increased respiration, nausea, vomiting, giddiness on attempting to sit up or get up, urine scanty, bowels constipated.

The duration of the fever will depend on the poisonous character of the ptomain and the skill of the physician in annihilating the germ and neutralizing the ptomains.

The entire nervous system is irritable from the presence of these bodies and must be soothed by the administration of either tincture of aconite, veratrum viride, belladonna or passiflora incarnata, alternated with bactericides to kill the germ and neutralize the ptomains. These remedies must be aided with rest, bathing, liquid diet, destruction of disease germs in the apartment by disinfectants, after which, by degrees, the heat, pulse, and respirations decline, the skin becomes moist, the tongue cleans, the appetite and strength improve, and the patient becomes convalescent.

The various types of fever are simply the outcome of various disease germs and their ptomains.

When a fever continues for some time without change it is said to be *continuous.* When the fever drops almost to the normal temperature and then rises again, it is said to be *remittent.* When in the intervals the temperature drops to normal the fever is said to be *intermittent,* as in ague. Fever is said to be *asthenic,* or *adynamic,* when there is great weakness with a comparative slight increase of temperature. *Inflammatory* fever accompanies acute inflammations. A *specific* fever is due to the presence within the body of a specific poison, as in scarlet fever and other zymotic diseases.

FISTULA.—A deep, long, and sinuous ulcer, which often forms a connection between the exterior of the body and some internal part, such as the lower bowel. Such fistulas are said to be *complete.* When they end in a *cul de sac* they are said to be *blind* or *incomplete.* The most common is that known as *fistula in ano.* It arises from the formation of an abscess in the neighborhood of the lower bowel, and the bursting of this abscess either externally, into the bowel, or both. There is usually great pain, which is greatly increased during defecation. There is also discharge of purulent matter, and sometimes blood.

FISTULA IN ANO.—A fistulous tube, lined by a false membrane, which is loaded with microbes communicating with the bowel and parts external to the anus.

Three varieties, *blind internal* within, opening in the rectum, but none external to the anus; *blind external,* no opening outside on the nates, but one inside the bowel; *complete,* when the fistula runs clear into the bowel. In the three forms bacteria are abundant.

1. In all cases, under all conditions, heal it up. Select some of the following methods of treatment: Ligation and gradual compression are used. Injection, favorite method as it meets the pathology as follows: First wash out the fistula with a 5 per cent solution of peroxide of hydrogen. Then inject a 95 per cent solution of carbolic acid and an equal quantity of a 10 per cent solution of cocain. Draw twenty to twenty-five minims in the syringe. Push the needle to the depth of the fistula, and then inject slowly as you withdraw the needle. Within two hours inject a solution of equal parts of oil of eucalyptus and glycerin, and the operation is finished. Keep patient quiet forty-eight hours.

2. Another very excellent method: Take of each, carbolic acid and glycerin, three drams; sperm oil, half a dram. Mix. Heat to 300 degrees F., and evaporate to four drams. Use the same as thus directed. Open bowels with large dose of castor oil. After evacuation, wash out rectum with saturated solution of boroglycerid. Then place patient upon his arms and knees on a chair seat, clean out sinus, put one finger in the rectum over the opening in the bowel (if there is one), then fill the sinus with the solution as the instrument is withdrawn; press down the piston of syringes when removed that it will be full, put finger on external opening for a few minutes. Lock up bowels for over a week by administering one grain of opium every four hours. If there is the least doubt of this procedure, inject sinus the following morning in the same manner without finger being in the rectum.

The rules of sound practice are, under all and every possible condition, to obliterate the fistula. The following methods are worthy of the attention of our readers, as both rectum and fistula are literally loaded with microbes of all descriptions.

3. Before retiring for the night, cleanse out the rectum, using a fountain syringe, with a warm solution of ozonized boroglycerid. When the entire contents of the bowel have passed, insert one or two jequirity crayons; repeat this every

night for one week. In 95 per cent of cases so treated, an effusion of plastic lymph will be thrown out sufficient to block up the fistulous opening.

4. If this method fails, then try: Wash out the bowels after the cathartic has acted; still further cleanse the rectum as in No. 3; then take a small piece of ozone paste, thicken it with flour, roll it out in the shape of a pipe-stem, pass a linen thread lengthwise through it, make its size or calibre just sufficient to pass through the fistula; then fasten the end of the thread in the eye of a blunt probe, passing this through the fistula into the rectum, bending the probe, bringing it out at the anus. Then tie the two ends of the thread externally on the nates, leaving the thread coated with the ozone paste in the fistulous opening. Usually if this is permitted to remain twenty-four hours, sufficient plastic lymph will be effused to completely close the aperture. This can be aided by inserting a krameria suppository every two hours.

5. If these methods fail, cleanse out the bowels as above, also the fistula, and inject into it a mixture of 25 minims of carbolic acid and one grain of eucain. Push the needle of the hypodermic syringe to the depth of the fistula, and inject slowly as you withdraw the needle, placing finger on orifice. Keep patient quiet in bed for forty-eight hours, inserting a krameria suppository every three hours. If there be the least doubt as to its efficacy, it can be repeated in twenty-four hours.

6. The insertion of several guaiacol suppositories daily often cause effusion of plastic lymph sufficient to effect a cure.

These methods merit the serious consideration of all conscientious physicians, before cogitating upon either ligating or crushing or cutting the intervening tissue between the fistula and the sphincter muscle of the rectum.

FISTULA, SALIVARY.—This is usually the result of a wound opening into the salivary duct. The saliva escapes by the sinus.

All these are curable by operation, but they require skillful treatment, and are often very tedious. They are not dangerous, but the worry, pain, and protracted discharges may produce a breakdown of the constitution.

FISTULA IN URETHRA.—If a stricture is not absorbed, it will give rise to irritation of the urethra and gleety discharge. The obstruction rebounds upon the prostate, and causes chronic enlargement of that gland; besides, in bad cases, a drop of urine is liable to lodge behind the stricture, and excite irritation, in-

flammation, ulceration, and ultimately an opening or fistula, through which the urine flows or drops when the patient urinates.

The best method of treatment, patient under an anesthetic, is to carefully dissect out the fistulous tract; then forcibly introduce through the stricture into the bladder a No. 12 silver catheter, and retain; stitch up the wound, and by the time it has healed—eight or nine days—stricture will have entirely suppurated.

FISTULA, VESICO-VAGINAL.—A fistulous opening from the bladder into the vagina.

Its common cause is the use of instruments during delivery, especially if the bladder has not been emptied. A full or distended bladder, with hurried labor, or with a bad presentation, or a crooked or deformed pelvis, may also give rise to it; and various other like conditions. It is often caused by ladies attempting to commit abortion on themselves by knitting-needles, whalebones. The dribbling of the urine through the orifice, night and day, gives rise to irritation, rawness of the vagina, and renders the patient very miserable, and an object of great distress.

It should be treated by getting her into as good health as possible, and then stitching it up; placing her upon her arms and knees, head down, parts well exposed by two crow-bill speculums, a catheter in the bladder. The edges of the fistula should be well pared, and then stitched up with lead-wire sutures; patient put to bed, and a catheter kept constantly in the bladder. All cases are successful.

FISTULA, RECTO-VAGINAL.—This may originate from a laceration of the perineum, which extends back through the sphincter muscle of the rectum, which has been stitched up, but left an opening between the vagina and rectum; or it may have arisen from chancre in the vagina perforating through, or from stricture of the lower bowel, foreign bodies; from the introduction of knitting-needles, whalebones, to induce miscarriage; and like conditions.

It is easily recognized by the passage of gas, liquid, or solid feces into the vagina. If very small, and in doubt, empty the bowels from above with castor oil; after it has operated, put patient on her back, knees drawn up, and a crow-bill speculum into the front part of the vagina; have a good light, and the index finger into the bowel, and examine it all over for an orifice. They are seldom high up, and by bulging the rectum

with the finger, can be easily seen. If very small, so that a pea would penetrate through, it can be closed up without an operation if carefully managed. Every second or third day for five or six weeks it can be touched with nitric acid; that is, the edges of the fistula and a little beyond; after it is raw, it will begin and throw out granulations that will effectually block up the orifice. It takes time and care, and while it is going on, the patient must keep bowels very soluble and free from gas, by eating a proper diet. If it fails, or if the opening is large, it should be stitched up. Patient's bowels having been well cleansed out, placed under chloroform on her back, a crow-bill speculum should be inserted, and the part exposed to a good light; its edges should be freely pared, so as to have a good raw surface. If the sore is round, like a three-cent silver piece, it has to be lengthened slightly, to prevent puckering when the stitches are introduced; then sewed up with lead sutures; and the sphincter muscle on both sides of the coccyx must be divided, so that the patient can have no control of the bowels, that gas and solid matter may pass without disturbing the fistula; bowels locked up for ten days with opium; and kept perfectly quiet in bed for two weeks. If the patient is strong and vigorous, all may go well; the cut sphincter may unite; if it does not, the patient is a miserable object all her future life, not being able to hold or have control over her bowels. The original fistula, however, unites perfectly, unless there has been some bungling in the paring of the edges or application of the stitches.

To obviate the cutting of the sphincter muscle of the rectum, tubes have been tried, with partial success.

In all cases the best of nourishment should be given, so that a high standard of health be maintained.

FORMALIN (*Chemically Pure*).—Formaldehyd ($C.H_2.O$) a gaseous body, prepared by subjecting methyl alcohol to oxidization. It is readily absorbed by and mixes with water in all proportions. One part added to 40 of water makes what is termed a 40 per cent solution, one tablespoonful of which, added to a quart of water, makes a powerful germicide, disinfectant and deodorant, an efficient sterilizer of infected tissue.

One ounce of formalin to four ounces of water is a grand formula for spraying the atmosphere of a room in which are domiciled patients suffering from microbic diseases (contagious

and infectious), such as whooping-cough, eruptive fevers, catarrh, ozena, chronic bronchitis, diphtheria, fevers, hay asthma, and it might be used slightly stronger in a steam atomizer for inhalation in pulmonary affections, sore throat and diphtheria. It has a most extraordinary microbicide power in keeping the atmosphere free from all germs.

When pure, undiluted formalin is painted on a chancre, it gives considerable pain, but one application wipes it completely out, and it is healed.

C. p. formalin applied to the skin exerts a kind of tanning or hardening effect, making the skin impermeable, and painting it twice daily for a few days brings about its necrosis—it penetrates deeply if applied in cancerous tumors or infiltrations and effectively destroys them; no suppuration whatever following its use.

The efficacy of the action of formalin in lupus, epithelium of the eyelids, lips, tongue, nipple, breast, uterus, etc., is simply marvelous. It is working wonders in the cure of cancer, completely necroses the coccidial parasites; it has a most remarkable action on the development, relationship and intimate structure of carcinoma—epithelial and glandular—it cuts clean, and in carcinoma of the neck of the uterus it is highly prized. Corns, moles, disease growths generally, all disappear when it is used. The mode of application in all cases is the gradual destruction of the growth by repeated applications. For cleansing and disinfecting instruments; injecting phagedenic cavities, abscesses, gangrene, etc., it is unexcelled. The watery solution of formalin, one tablespoonful to the quart is sufficient. The same placed in deep plates or saucers, six or eight will keep an ordinary sized apartment sweet and free from microscopic life for a week, when it must be renewed. Its antibacterial properties are immense.

For embalming and the preservation of anatomical specimens it is exceedingly valuable. Besides rendering them indestructible, it hardens, maintains the normal color and translucency of the tissues.

For the preservation of the dead, either for embalming or dissection purposes, maintaining a life-like color, such a formula as the following is unrivaled: Formalin, six parts; chloride of sodium, one part; sulphate of soda, sulphate of magnesium, of each, two parts. Mix.

We would urge upon the profession a general use of formalin, and we would suggest that they keep it already prepared in

their offices. To those who are desirous of using it, we would suggest such a mixture as the following: Make a half gallon saturated solution of ozonized boroglycerid, add to that four ounces of the concentrated tincture of echinacea, a dram of thymol and the same quantity of menthol, with one ounce each of the essence of wintergreen and pine needles, adding one pound of formaldehyd; our readers will find this of surpassing efficacy for adding to lotions in cutaneous diseases.

As a prophylactic and cure of whooping-cough, croup, bronchitis, simply spraying the room every three hours.

For the immediate eradication and cure of all cutaneous diseases of animal and vegetable origin, as psoriasis, lepra, tinea, etc., it has no equal.

Excellent to apply in bites and stings of insects.

Another addition to every physician's office is formal-gelatin for dusting on all wounds, after the indications of treatment are fulfilled, on all sores, ulcers and abrasions. The moment this is applied, it yields its formaldehyd to the living tissues, and produces instantaneous cicatrization of the wound, hermetically sealing it by the formation of an eschar.

Formalin must never be administered internally, not even in a diluted form.

Although invaluable in disease on account of its antibacterial, non-toxic, non-corrosive properties; although it cannot be detected by either taste or smell, it should never be used as a food preservative, nor for preserving wines, beer, fruit juices, milk, cream, meat, fish, catsup, vinegar, pickles.

The internal use of formalin causes atrophy of the optic nerve—irreparable blindness.

FOUL OR FETID BREATH.—This arises from a variety of causes, disorders of the salivary glands, digestive disturbances, decaying teeth, nasal catarrh, torpid liver.

In inertia of the salivary glands of the mouth with fetor, use a mouth wash of a solution of chlorate of carbon before and after meals, which kills the bacteria in the oral cavity.

If it arises from gastric catarrh, the toxins of the sarcina ventriculi, administer one siegesbeckie tablet dissolved in water after eating, which will clear the stomach of all germs and render the breath sweet.

If from the teeth, it usually comes from a cavity in which food lodges, decomposes and suffers microbic evolution, which

is ruinous to health, deleterious to all in close proximity. Removal or filling at once should be resorted to.

If from torpid liver, the emanations from the tonsils are most offensive. Administer three to five grains periodate aurum every evening for a few weeks.

If from nasal catarrh, it is usually atrophic, considerable dryness and hawking, the ameba cling closely to the mucous membrane decomposing, evolving deadly toxins in the posterior nares, and giving rise to a bad species of auto-intoxication. A douche of ozone et chlorine, if properly applied, has a marvelous action in obliterating catarrh of the respiratory membranes. Apply it well and only once, follow every evening with a spray of peroxide of hydrogen, mix with an equal portion of water. Excellent to destroy odors, clear the parts of germs. Resorcin, jelly of violets will also be found of great service.

FRACTURE.—By the term fracture is meant a break of bone.

Causes.—There may be a predisposition in the bones to give way, owing to disease, as atrophy, softening or excessive brittleness of bone, due to an abscess or excess of certain constituents. The exciting causes are either mechanical violence or muscular action. Mechanical violence may be direct or indirect; *direct* when the bone gives way at the point to which the violence has been applied; *indirect,* when the bone gives way between two opposing forces. Muscular action is rarely a cause, unless the bones are either weak or diseased.

Varieties.—Fractures are divided into simple and compound —*simple* when there is no laceration of the skin or soft parts; *compound* when the bone has protruded through the skin. Simple fractures are divided into classes as follows: *transverse,* when the bone is broken clean across; *oblique,* when broke in an oblique direction; *longitudinal* when slit up in its length; *comminuted,* when broke into small fragments. Compound fractures are more dangerous than the simple because the force or violence necessary to cause a bone to force its way through the skin gives rise to a greater shock; because there is more danger of a laceration of nerves and blood-vessels; and because, under the tedious process of healing of broken bone, with ulceration of soft parts, the patient's vital forces may give out.

Symptoms.—The symptoms of fracture are essentially three: *Deformity,* such as bending, shortening and twisting of the injured limb; *preternatural mobility,* one end moving indepen-

dently of the other; *erepitus,* a grating noise, heard and felt when the broken ends are rubbed against each other. In addition to those three essential symptoms, there may be pain, heat, redness, swelling, ecchymosis, helplessness, twitching, spasm of the muscles.

Treatment.—The treatment is very simple, and embraces four indications, which, if properly carried out, patient in good health, no blood taint, or disease, will insure a good union of broken bone.

Before attending to those four points, the patient must be carried to his home, or hospital, on a stretcher, or ambulance, with both legs tied together at knee and ankle; or, if an arm, tied to the body, so that there be no chance of the broken bone being thrust through the skin. When home, the bed on which he is to rest should be made as level as possible; the patient laid upon it, undressed and examined, and well washed.

1. The limb must be placed in such a position as will relax the principal muscles that cause displacement.

2. The fracture must be set; that is, the broken parts must be adjusted in their natural position. For this purpose the upper end of the limb must be held firmly by an assistant; the lower is extended, or firmly but gradually and gently drawn in such a direction as to restore the limb to its proper length and shape, carefully manipulating any fragments with the fingers into their proper position. If necessary to overcome pain or spasm, chloroform should be administered.

3. If it does not interfere with the dressing, the limb should be bandaged from extremity up, so as to confine muscles and prevent them from disturbing the fracture.

4. It is always necessary to use some mechanical contrivance to keep the limb its proper length and shape, to keep the two broken ends in perfect apposition, and prevent all motion or movement.

There are various contrivances and appliances, embracing splints, pads, sandbags, starch and plaster of Paris rollers, paraffin molds, adhesive strips, for each respective fracture.

If vitality is good, no syphilis, nor mercury, nor tubercle, nor cancer-germ in blood; if the bones are in perfect apposition, no pain, and a very high standard of health maintained, the broken bones might become cemented together without any swelling, or lymph-callus being present—a perfect union by first intention; but more frequently they unite in the following manner:

Repair of Bone.—When the vital forces of the patient rally from the shock of the accident, nature begins to throw out lymph from the broken ends of the bone, the periosteum, and surrounding textures. She continues this process for a week or ten days. This lymph embraces the two ends of the bone and adjacent parts. When nature has completed the effusion, she begins next a process of absorption and consolidation of this lymph, which gradually grows less and less, firmer, and more substantial, so that in ordinary cases, at the end of six weeks, the patient may get about, with care; and at the end of four and a half months more this lymph is all absorbed, the two ends of the bone perfectly united, even as strong as the original bone. The technical term for that lymph, from its first effusion to its ultimate absorption, is a *provisional callus.* It is supposed that that lymph is first converted into fibrous tissue, and gradually into bone. The time of absorption and consolidation varies with the age, vitality, and fitness of dressing, apposition, rest, good nourishment, freedom from worry, etc. There are some bones when broken that do not unite by bone except in rare cases, such as all flat bones, like the skull, the neck of the thigh-bone, the heads of bones in joints, or bones covered by the synovial membrane, or lining of joints. There are numerous reasons for these not uniting, as they cannot be kept in apposition, or contact, or at rest; there is no structure present to form a provisional callus. This is a wise provision of nature, for if bony matter was thrown out in joints, their mobility would be entirely destroyed. The shafts of the long bones are where perfect union can be best obtained and with exactness.

NON-UNION AND FALSE JOINT.—A perfect union of the broken ends of two bones may not take place by bone, but by ligament, or not at all; the ends of the bones become smoothed off, and false joint forms.

This is liable to occur from a defect in the dressing; from irritability and restlessness of the patient; from age; debility; albuminuria; or from the presence of disease germs in the blood, as tuberculæ, syphilis, cancer; or to the poison of mercury; or if the patient is pregnant, or a fever comes on; or if there is disease in other parts; or if there is an inadequate nerve-supply, meagre diet, insanitary surroundings, stimulants that deprave the blood; from pain in the fracture. No fracture can unite by bone if pain is present. Drugs are very liable to cause it, especially iodide of potass.

Treatment.—Should union not occur in the regular period,

the best plan is to apply the paraffin dressing, which is soft, firm, and will keep the parts at perfect rest and perfect apposition, and in no way impede the circulation, like plaster of Paris or the starch roller. Should this not succeed, after six or eight weeks' trial, make an effort to remove the cause, if possible, and get the health restored. Then there are various methods of procedure, which have the same object in view, namely, causing a determination of blood to the part, a molecular excitement, a true hyperemia. This may be done by the two poles of a battery, applied daily; by the irritating plaster over the part; by rubbing the ends of the bones against each other; or the fractured ends could be cut down upon, their ends sawed off, and treated as a compound fracture. In other cases holes are drilled in the bone; ivory pegs, setons, etc., everything calculated to cause a determination of blood to the part.

The constitutional treatment is of the greatest importance. Debility must be overcome, with good food, tonics; and it is well to see to food that contains bone, as oatmeal porridge and cream, boiled fish, and even administer lime-water in milk.

COMPOUND FRACTURE.—A fracture with a wound, or laceration, through which the bone has penetrated. The greater violence necessary to cause this form of fracture gives rise to more danger from the shock, from the danger of tearing nerves and blood-vessels, fever, tetanus, and the long process of suppuration incidental to such injuries. If principal nerves or arteries are torn or bruised, or other grave injuries present that would render repair impossible, amputation may be required; and divers other conditions present that render this class of injuries at all times serious.

Treatment.—If it is decided to save the limb, then the rough or splintered broken ends must be sawn off, and the fracture set like a simple one, and an effort made by plugging the wound with a piece of sponge saturated with carbolic acid and olive oil, to hermetically seal the wound up, and make it a simple one. The object in view is to destroy all micro-organism; coagulate the tissues. In 80 per cent of all cases this will be successful if wound is thoroughly cleansed of clots, dirt, by washing it out with an antiseptic wash.

FRANCISCA.—Manaca, or the plant, *Francisca uniflora*, native of Brazil.

Therapeutical Action.—A powerful, energetic bactericide,

completely annihilates the bacillus amylobacta of rheumatism and of syphilis; does good work in lepra and psoriasis.

Preparations and Doses.—Ozonized fluid extract, in doses of from 10 to 20 drops. Great care is requisite to so manipulate it as to obtain splendid results.

FRECKLES.—Small yellowish-brown spots which appear on the faces (and exposed parts) of fair-complexioned people or people exposed much to the weather. Very little can be done to remove them. A lotion of olive oil and lime-water in equal parts, to which a little ammonia has been added, has been recommended; and still more efficient remedies are lotion of either lemon juice or lactic acid, or the sixteen-vol. peroxide of hydrogen.

FUCUS VESICULOSUS.—Sea-wrack, or sea-weed, algæ.

Therapeutical Uses.—Contains a large percentage of iodine combined with the salts of potassa and soda, its chemical constituents being chiefly iodine and ozone from nature's laboratory—the one from the sea, the other from the atmosphere. The vitalizing properties of each render it a remedy of inestimable value as an alterative.

If the fluid extract is prepared from good, fresh sea-weed, dried under cover, it is one of the best alteratives, and has a remarkable affinity to strip off fatty tissue, and cause a reduction of the weight of the body.

Dose: Ozonized fluid extract, 1 to 2 drams.

GALACTAGOGUE.—Any remedy that increases or favors the secretion and flow of milk. From the earliest period the profession has had to depend chiefly upon malt extracts and the castor-oil plant, the leaves applied to the breast and the oil given orally. More recently the ozonized thyroid extract of the lamb has superseded all other remedies, and demonstrated itself to be the best and most efficient of all galactagogues. Its use starts the flow of milk; if in any way deficient increases it immensely. The best method of administration is to add one ounce of the thyroid to four ounces of sherry wine, of which a few drops should be given daily. For nursing mothers, independent of its prompt action in increasing the lacteal secretion, it is a remedy of priceless value not only to the mother but to the child; it prevents and cures myxedema in the mother; it is a prophylactic against idiocy, feeble-mindedness; all congenital defects

in the child and all deviations from the normal whether they be physical or mental. Protonuclein also is invaluable as well as all malt extracts.

GALLIC ACID.—An important vegetable acid obtained from galls and which is also present in a large number of other astringent plants. It is the source from which pyrogallic acid —so largely used in photography—is obtained. In medicine it is largely used as an astringent, in doses of from 2 to 20 grains, to check hemorrhages, discharges, etc. It is used externally as glycerin of gallic acid (1 to 4 of glycerin). In its properties it is practically identical with tannic acid.

GALLS.—Excrescences of the oak tree (*Quercus lusitanica*) caused by the punctures and deposited ova of *Cynips gallae tinctorae*. From galls a tincture and an ointment are obtained, as well as gallic acid. The ointment is largely used as an astringent in the treatment of piles.

GALLSTONES.—The chemical composition of the human bile: water, 850 parts; bile salts, 91; fat, 9; cholesterin, 2; mucus and coloring matter, 29; salts, 7 in 1,000 parts. The secretion of bile is continually going on, but somewhat retarded during fasting and accelerated during the taking of food. The bile formed in the hepatic cells is discharged into the minute hepatic ducts, passes into the larger trunks, and from the main hepatic duct into the duodenum. The gall-bladder is a true reservoir for holding the bile for the wants of the economy.

Under certain conditions, such as with an excess of amylaceous, carbonaceous, saccharine food, malt and alcoholic drink, together with monotony, indoor life, imperfect ventilation, nonaeration of the blood takes place; the bile becomes thick, crystallizes, forms an obstruction to its own escape; it is absorbed in great quantities, constituting the phenomena of jaundice.

It is supposed that an ordinary sized man secretes from 20 to 40 ounces of bile in the twenty-four hours.

A thick, clotty, or crystallized condition of bile may arise from a variety of other causes not so common in early life, unless due to malaria, but after thirty-five very common among the sedentary, or in those who lead a physically inactive life; much more common among women than men. Pain, paroxysmal over the region of the gall-duct, with vertigo, nausea,

vomiting, biliary-coated tongue, injected conjunctiva, constipation, favor the idea of the formation of biliary calculi.

Gallstones, or biliary calculi, may be very numerous, but, if they remain in the gall-bladder, they give rise to little trouble. When, however, one of them passes into the common bile-duct, and its passage is impeded, it gives rise to most alarming symptoms, which sometimes terminate fatally. The pain is paroxysmal and most excruciating, vomiting comes on, and there is usually some shivering. When the stone passes on into the intestine the pain ceases. In some cases the stone does not pass on, and may cause ulceration and perforation of the gall-bladder or its duct, and thus bring on fatal peritonitis. Gall-stones are said to be one of the causes of cancer of the liver.

In all cases calculi are made up of either a deficiency or redundancy of certain elements of the bile, a scantiness of its watery elements, it may coagulate; an excess of cholesterin, it may crystallize.

When the symptoms of gallstone passing the duct are present, the curative indications are to facilitate its passage into the intestines, to relieve pain and prevent inflammation, which the presence of an extraneous body if large is calculated to produce in the duct. This is best effected with large doses of gelsemium. Dose after dose relaxes the duct and favors the expulsion of the calculus. Warm bath, hot fomentations, are of great benefit.

Between the attacks solvents should be tried, to cause a chemical disintegration of the calculi, and for this purpose the ozonized uric acid solvent should be preferred above all other remedies. Under its influence the calculi breaks up, disappears, without any trace, in copious, bilious evacuations, which it produces. I have used this remedy in several hundred cases, and found it an excellent solvent for those stones. It is well enough one or two days of each week to administer compound tincture of cinchona and nitromuriatic acid, with phosphate of soda, sufficient to keep the bowels free; but in all cases, five days out of seven, the patient should be placed upon the uric acid solvent ozonized. There is little doubt in my mind but this remedy owes its powerful solvent properties to the combination in it of the chionanthus virg. and dioxide of hydrogen. The same preparation is efficient in nearly all dormant states of the liver. Diet has a marked influence upon the quality of the bile; vegetables and fruit have a marked influence upon the bile, with lean meats proportioned to the wants of the system.

Non-aeration of the blood in conditions of monotony, in indoor life, malaria, toxins of disease germs, chronic alcoholism, carbonaceous diet, have a tendency to form biliary concretions, which are often numerous and give rise to much trouble and danger.

Biliary concretions are common at all periods of existence from intra-uterine life and early infancy, due to a stagnation of bile in the gall-bladder; later on calculi arise from catarrh of the ducts, probably nothing present but simple jaundice; they are likely to be present in malaria, dengue, yellow fever, also in cancer of the liver, scirrhosis and pancreatic disease, in yellow atrophy of the liver or epidemic aundice, phosphorus poisoning, much more common among women who lead an indoor life, or who once suffered from any congestion of the liver.

The special treatment of biliary calculi consists in hot fomentations over the liver; just as large doses of the green root tincture of gelsemium as can be borne; olive oil, slight inhalation of chloroform; very light but extremely nourishing food. The passage of these stones takes from a few minutes to a few hours; not only the paroxysm, but the pyrexia, rigors, sweating, vomiting, are promptly relieved when the stone drops into the duodenum.

Monotony, isolation, non-aeration of the blood, together with the toxins of disease germs, are the leading causes, and all aid in setting up inflammation of the gall-duct, which may form an abscess from which pyemic infection may follow.

Every physician should see to it that an ample supply of green root tincture is always procurable.

Periodate aurum is probably the most efficacious remedy to disgorge the liver and gall-duct; but for continued use, curative and preventive, no remedy can excel the ozonized expressed juice of the phytolacca berry in doses of from two to sixteen drops added to warm water. The ozonized fluid extract of chionanthus virg. is also of great utility.

One of the commonest of the false statements enunciated is that gallstone affections are not generally dangerous. Exactly the contrary is the case; the general ignorance of the fatality of gallstone cases being due to the unfortunate frequency with which patients succumb to them without the medical attendant's having had the remotest idea of the true pathology of the case he was treating. The reason of this is not far to seek, for it lies, I believe, in the fact of his having been falsely taught that all dangerous gallstone cases are associated with jaundice and

paroxysmal pain; whereas it actually happens that the majority of fatal gallstone cases are unassociated with either one or the other of them. Incredible as this may appear, it is nevertheless perfectly true. For there is no jaundice, and no paroxysmal pain (indeed, in the first instance very little pain of any kind whatever) when a gallstone ulcerates its way out of the gall-bladder. Should the stone in this case enter the peritoneum, a fatal peritonitis is the result. Sould it enter the intestines, if large it kills the patient by ileus; if small, it passes safely down the intestines until it reaches the ileo-cecal valve, where it often sets up such an amount of irritation as speedily induces a fatal enteritis.

When olive oil is ingested, a stimulating action on the secretion of bile is produced, causing it to flow in large quantities. it possesses a higher power of stimulating this secretion than either food or drugs with the single exception of ox-gall.

Salicylate soda, in alternation with glucozone, increases biliary secretion immensely, besides it dissolves and disintegrates biliary concretions most effectively.

The uric acid solvent also acts efficiently with, or in alternation with, either of the above remedies.

An ozonized extract of chionanthus virg. has a most remarkable action in liquefying the bile; it increases its secretion, promotes gastric and intestinal activity, and has a most valuable action on the blood.

Sulphate cinchonidine; irisine, of each, twenty grains; hydrastine white alkaloid, ten grains; extract nux vomica, five grains. Make twenty pills, one before meals. Very superior combination for gallstones.

Phosphate of soda, chloride of ammonia, nitromuriatic acid still do good work where there is a tendency to form concretions.

But olive oil and gelsemium are the great panaceas.

When four to eight ounces of oil are poured into the stomach, that organ in the throes of animated contractions quickly sends a portion of it into the duodenum, where it exercises a most soothing influence on the irritated mucous membrance, and by reflex action causes the spasm to cease, which formed the principal element of the painful attacks. That the oil has any influence in dissolving the calculus is doubted. Repeated at intervals, the oil seems capable of hindering the return of the trouble by rendering active and fluidifying the biliary secretion.

GANGLION.—The bones at the joints rub on each other and in order to minimize the wearing away, which would result from friction, nature has lined all joints with a synovial membrane, which secretes a lubricating fluid. Muscles all end in tendons, which are affixed to bone, passing round or over tuberosities, under which and around are synovial sacs, termed ganglia or bursæ.

Every structure in the body, if irritated, is liable to take on inflammation. Tendons, bursæ and ganglia are no exception to this rule; hence about the knee and wrists we often meet with those ganglia swollen size of peas or small eggs, rarely larger than an ordinary marble. When cut open, they resemble a little bag filled yith a clear transparent, yellowish fluid. On feeling, it is globular, elastic in connection with a tendon.

Rest, with compression, is usually curative; pressure by means of the genuine old caoutchouc is effective.

GANGRENE.—The process of dying; partial death, incipient mortification. Usually ushered in by a sudden diminution of feeling or sensibility in the part; livid discoloration; detatchment of cuticle, under which a turbid serum is effused; with crepitation owing to the evolution of gases in the areolar tissue. When it has become quite black, cold, incapable of feeling, circulation and life, it constitutes mortification or complete death.

To prevent gangrene, more active treatment, more vitalized remedies, more bactericides to arrest molecular change, destructive metamorphosis and evolution of bacteria.

Most powerful antiseptics orally and locally. For the former select either ozone, comp. oxygen, sulphide of lime echinacea, wild indigo, carbolic acid, or yeast; for the latter apply either a poultice of carbolic acid, yeast, capsicum, or charcoal; echinacea alone, comp. tincture of myrrh, peroxide of hydrogen, either arrest the process of dying or establish a line of demarkation between the living and dead parts.

GASTRITIS.—One of the coming maladies of the twentieth century will be acute and chronic gastritis, the causes being adulterated food, canned and embalmed meat in tins; the bacteria, the evolution from these deadly products, produce disease. Deadly germs thus enter the stomach, live and grow in a toxical pabulum homogeneous to their character created by themselves.

The principle of the coming age should be annihilation to such food products, maintain the vital force, sustain it, keep in health, good food, and air; thorough cleanliness, no excesses, labor in moderation, no mental worry.

Watch what enters the stomach.

The earliest signs of acute gastritis are the raw beef appearance of the tongue. Nausea, vomiting, with a coffee-ground vomit, which is blood changed by the acids of the stomach, together with restlessness, feverishness, thirst, pain, offensive breath, loss of appetite and burning sensation at pit of stomach. When these symptoms are present there need be no doubt in regard to the lesion, though the primary cause may be obscure or unknown. For a time the stomach will digest nothing, hence no food may be swallowed. The constant call is for water; and the colder it be so much the better it is relished. Ice will do, yet a constant supply must be at hand. As soon as the stomach is full of fluid, emesis takes place, often with retching. Then, more water! To treat such a case successfully requires thought, skill, experience. Slippery elm water added to which gelsemin and passiflora. Possibly a few drops of camphor water, a sip of warm water, or a teaspoonful of ginger ale. Warm water will slake the cravings of thirst better than cold. A dilute solution of sulphate of magnesia operates favorably, even if not well received at first. As the nausea subsides rest will be obtained—possibly sleep. Repose is curative. Almost the starving point is reached before food will stay in the stomach. The juice of beef is to be offered in preference to starchy articles of diet. A hot plate placed on the epigastrium generally affords relief from pain. A teaspoonful of orange juice is agreeable in the advanced stages of the disease, but will be rejected in the earlier stages of the morbid onset. The gastritis of drunkards is obstinate and often dangerous. Ulceration of the stomach is apt to be fatal; and there is no way to tell when a gastritis may become ulcerative.

GASTRITIS, CHRONIC.—Met with in all degrees or stages up to the acute. Symptoms very variable, from a gastric neurosis, tenderness on pressure, headache, heartburn, sour eructations, vomiting, constipation, submucuous coat of tongue red or else red in patches, to gastralgia, all the symptoms of indigestion.

Hydrastis, cinchona, mineral acids, collinsonia, gentian, nux, ozone water, gelsemin, hyoscyamus, passiflora, liquor cerii.

Stimulating plasters over the stomach, warm flannel clothing.

Cream, milk, eggs, arrowroot, rice, barley. All solid food

must be well masticated. A milk diet is often curative. Drinking warm water as hot as it can be taken relieves distress, overcomes nausea and vomiting. Forbid strictly the use of tea, coffee, tobacco, pudding, sauces, stimulants, fresh bread, corned beef, cabbage, pies and pork.

In chronic gastritis, all the usual symptoms of indigestion are present; added to these, the coated tongue, with its red tip and edges, with pain aggravated by pressure over the region of the stomach. Symptoms are so clear, welldefined, that it is impossible to confound it with cancer of the stomach, gastric ulcer, hepatic, renal or pulmonary affections.

If a proper diet be pursued, rational medical treatment employed, every case of chronic gastritis will recover promptly.

In the first place, sufficient doses, at proper intervals, of the green root tincture of gelsemium, should be administered to efface pain, and a tepid infusion of kaki should be drunk when the stomach is empty, and at stated intervals. This exerts a powerful influence in arresting the excessive secretion of mucus, destroying the microbic elements of fermentation, and stimulating normal action—it even inhibits the growth of the sarcinæ.

The very best results follow drinking an infusion of kaki, at any time with advantage.

The unguentum capsicum of the dispensatory is one of the very best applications over the region of the stomach in chronic inflammation—strength just sufficient to be slightly rubefacient.

GASTRIC VERTIGO.—This is a disorder that attacks a number of persons, mostly those of sedentary habits, professional people and brain-workers.

It is very often diagnosed as simply biliousness. It is a subject that has given me much concern, and I was a long time arriving at a satisfactory diagnosis and the best plan of treatment. I conversed much with my fellow-practitioners about the symptoms of this malady, and read all the books and literature that I could find relative to the symptoms of the affection for a number of years back, but I could only get a scrap here and there. Its main symptoms with most patients is a sudden quivering and twitching of the eyeballs, with gradual diminution of vision and dizziness, followed by a sense of fullness at the forehead. The patient at first generally gets more or less frightened, and whatever they are working at must be abandoned; because, between the loss of vision and nervousness, the

patient is unfitted for anything for the time being. If a remedy is not handy and the subject attempts to go on with whatever is occupying his mind, vomiting and severe headache will soon supervene.

If the patient should happen to be walking he becomes apprehensive lest he fall in the street, or feels that something is going to happen to him—a stroke of paralysis, apoplexy, epilepsy, etc., are the usual thoughts that flash through the mind.

It is very distressing and annoying when one first has these attacks, and it is calculated to make almost any one lose his nerve. A disturbance of the circulation is noticed; a cold clammy sweat and a nervous tremor generally follow. Men generally stop and are quiet for a few minutes, and then seek a remedy. Women often lose control of themselves, fall or faint from fright, and frequently have convulsions and are prostracted for a while. In making out a proper diagnosis, hostero-epilepsy, paralysis, epilepsy, liver, kidney and brain diseases, and reflex disturbances are to be considered.

In these cases there seems to be a sudden interruption of the cerebrospinal fluid. A slight constriction is often felt over the forehead and at the occiput.

Some have sudden severe headache with sick stomach. If constipation exists the trouble is aggravated; but I have known the paroxysms to come on when the bowels were loose, but at that time most patients I noticed were suffering from liver torpidity or malaria. There is an intimate relationship between the brain and the liver and digestive apparatus which is an interesting study. Disturbances in the liver disorder the brain directly, as well as by the abnormal products which reach it through the blood. Look at the disorders of toxemia. The liver has its representative area in the brain just as much as the arm or leg is represented in a distinct and localized area.

Kolatin in tablets is an excellent remedy in these cases to rouse the liver into activity—at the same time comp. matricaria energizes the molecular working power of the brain.

GASTRIC CATARRH (*Sarcinae Ventriculi*).—Mucous dyspepsia, catarrh of the mucous coat of the stomach, is the most common of all forms of indigestion, seventy-five out of every hundred being of this type.

It may be defined to be a weak, relaxed condition of the lining membrane of the stomach, with an excessive secretion of mucus, in which the fungus *"Sarcinae"* is evolved, and breeds according to the amount of mucus secreted.

Its etiology is due to the habit of drinking excessively of fluids, especially malt liquors, to improper mastication of food, hurried eating, disease of the liver.

Its diagnosis rests chiefly upon the fur on the tongue, and sarcinæ in the mouth; pyrosis, heartburn, flatulence, sour eructations, distention of the stomach and abdomen, constipation, with every two or three or more weeks sudden attacks of diarrhea, the maturing of the fungus, and its passage by the stools. A reformation, re-growth of the plant takes place and goes through the same process.

The reflex symptoms to the medulla oblongata give rise to headache, vertigo, languor and debility. The train of nervous symptoms which accompany gastric catarrh are due to the ptomains excreted by the fungus.

For a good microscopical examination it is best to administer an emetic, and procure the fungus free from admixture with food—place a piece of it in the field of the microscope, when cocci, cubes or packets, with rounded-off corners, are seen in groups of four, or multiples of four, united in families of eight, sixteen, thirty-two, sixty-four. Contents of the fungus, greenish or yellowish red.

The germ or fungus bears cultivation well on albumen or liquid gelatin.

Pathogenic of catarrh of the stomach, communicated to water, through the sewers, thence to poultry and animals.

Fungus *starved* out by either drinking freely of an infusion of bayberry or stone crop, or collinsonia, kaki; *streilized,* by mineral acids, peroxide of hydrogen; sulphide of lime; resorcin, saccharated sulphur; lactic acid; creolin; ozonized sulphur water ichthyol jelly.

GASTRIC FEVER.—Essentially a malady peculiar to children, and induced by some agent that is devitalizing to the stomach, as the digestion of pastry, cabbage, nuts, candies, alcohol, or other irritants.

There is a period of prostration, during which the child suffers from languor, lassitude, debility, nausea, vomiting, followed by rigors and a fever, in which the predominating symptoms are nausea, vomiting, pain over the region of the stomach; acid or fetid breath, white-coated tongue are always present.

Its duration is from seven to fourteen days, and if properly treated terminates in recovery.

It is easily recognized by its history, derangement of stomach, nausea, vomiting, white coat on tongue, irritation of

brain, and the entire absence of any other type of fever, and that it is peculiar to children.

Just as soon as diagnosed, give the little sufferer an emetic of the wine of ipecac. The peculiar shape of a chilld's stomach enables it to vomit easily and effectively. If possible get the patient to precede the emetic with tepid water in which a little bicarbonate of coda is dissolved—free emesis if possible follow this with 2-gram doses of periodate aurum on the tongue, and the neutralizing cordial—continue till bowels move freely. A warm bath to commence with, followed by sponge bathing twice daily.

If nausea and vomiting be a symptom, apply stimulants over the abdomen, either a mixture of spices or concentrated ozone over the stomach. Give the stomach rest, boiled water on toast or crackers, to which a few drops of glucozone are added.

Neutralize the toxic elements, which have undergone a decomposition in the alimentary canal—the peroxide of hydrogen and resorcin an excellent combination in these cases, safe, as salol is not admissible remedy to administer to children .

Several days after the fever has entirely disappeared is the proper time for tonics, as the wine bitters, elixir cinchona, sulphate cinchonine.

Otherwise, the treatment should be the same as for fevers generally, especially insisting upon rest in the recumbent posture, and sponging the body thrice daily.

Gastric Tumors.—Every form of thickening, or infiltration or tumor on or in the walls of the stomach, whether it be simply an effusion of lymph, fibrous tissues, or an aggregation of tubercular germs, in the near future will be capable of being removed or dissolved by those newly-introduced remedies, papoid, trypsin, lactic acid in different strengths, and the local application of ozonized clay.

These remedies are remarkable for their solvent power over all adventitious tissues. The peroxide of hydrogen is best adapted to malignant growth.

The fluid extract of Virginia stone crop is most bracing to the walls of the stomach.

An almost infallible remedy for the absorption of gastric indurations and tumors consists in a mixture of equal parts of resorcin ointment and ozonized phytolacca berry juice—applied all over the region of the stomach; by way of change, an occasional application of the ozonized clay.

GASTRO-INTESTINAL INFECTION.—In children of an early age, from a variety of conditions, chiefly from deleterious food, contaminated milk, an evolution of a dwarfed species of the sarcinæ, giving rise to intestinal catarrh, dyspepsia and often a destruction of the epithelium, with intestinal atrophy, and accompanied with vomiting, diarrhea, colic—the function of both liver and pancreas being greatly impaired.

Periodate aurum is invariably here, repairing the damaged liver and pancreas—heals the lesion in the follicles, arresting the morbid process due to infection or auto-intoxication which proceeds from within. Peroxide of hydrogen, resorcin, ozonized stone crop, echinacea are remedies of rare value.

GAULTHERIA.—The preparation, oil of wintergreen reduced to a glycerite by means of negative ozone, is an admirable and exceedingly efficacious remedy in all cases of either acute or chronic rheumatism. When administered in doses of 10 of 15 drops very frequently, until its physiological effects are visible, in the ringing of the ears, a lowering of temperature, a reduction of the frequency of the pulse, a perfect freedom from pain, when a normal condition is secured hold it by doses at intervals of three or four hours apart.

Its action is that of a powerful microbicide, destroying the bacillus amylobacta in all the fluids and solids of the body, uniting with the lactic and butyric acids, rendering them inert, toning the organs of digestion and assimilation, has the wonderful capacity of preventing the evolution of the germs, and neutralizing its toxin in the synovial membrane of joints.

It is a perfect substitute for salicylate acid and soda, better by far, as it has no depressing action upon the heart, no deleterious effects, but rather a prophylactic to relapse. Advanced, higher-graded physicians prefer this preparation to any other derivatives of the true oil of wintergreen.

GELSEMIN.—The bark of the root of the yellow jasmine, which grows freely in our Southern States.

Physiological Action.—A cerebral sedative in small doses; administered in large doses, it causes vertigo, double vision, paralysis of the sensory columns of the cord, heart's action slowed, temperature lowered.

Chemistry.—It contains a glucoside, which is soluble in alcohol or ether, but sparingly soluble in water; and an acid "gelsemic acid."

Therapeutical Uses.—An excellent remedy in all forms of malarial fever, in neuralgia, and nervous affections generally. It has a most decided action upon the sexual appetite, and is a remarkable sexual sedative, cutting off erections as well as desire.

Preparations and Doses.—A tincture prepared from the bark of the root, freshly dug out of the ground. When in full bloom is the best for general use, being administered in dose from 5 drops up. The powdered extract, or abstract, good. All other preparations are most unreliable, even the hydrochlorate of the gelsemin is not a safe drug.

In malarial fever it is administered as follows: Sulphate quinine; prussiate iron, āā gr. xxx; abstracta gelsemin, gr. iii; abstracta mandrake, gr. iii; oil black pepper, gr. q. s. To make thirty pills.

Give one or two every hour, so that three doses are taken before the chill, or make into powders by adding capsicum instead.

Another is green root tincture gelsemin, one ounce; sulphate of quinine, two drams; aromatic sulphuric acid, half a dram. Dissolve the quinine with the aromatic sulphuric acid, then add the gelsemin. Dose: Half a teaspoonful added to water, so that three doses be taken before the chill. It never should be administered in infantile diseases.

Ozonized green root tincture of gelsemium is a true sedative to the sexual glands, allays all irritation, and, together with passiflora, is a standard remedy in spermatorrhea. It is an American drug, peculiarly adapted to the infirmities of our people. It is good in a common cold, arrests profuse nasal secretion, subdues cough, relieves pain; favors the re-establishment of normal secretions; it has a vitalizing action upon the skin, kidneys and intestinal tract; it lowers heat, slows the heart's action, creates a feeling of comfort over the entire body.

Keeping a malaria-struck patient at perfect rest, administering this remedy, so as to obtain its full physiological action, the germ will die in the body.

Unlike antipyrin, it does not interfere with the oxygen-carrying capacity of the blood-corpuscles.

The indistinctness of vision, dilation of the pupil, amblyopia, imperfect memory, feeble or squeaky voice, hebetude of mind, confusion of thought, point to seminal loses as the cause. Green root tincture of gelsemium and passiflora incarnata, full dose at bedtime and a salix nigra suppository. During the day, ad-

minister ozonized black willow extract in average doses. As the symptoms give way, give small doses of avena sativa.

Take it altogether, gelsemium is one of our sheet-anchors, and has a very wide field of usefulness. Its indications are bright eyes, contracted pupils, flushed face, elevated temperature and fast pulse. You can thus see that it is frequently called for in acute inflammatory affections of all kinds, and we do thus use it, and many times combine it with the indicated special sedative. It is of use in spasmodic affections. In reflex spasms of childhood we would not exchange it for any other remedy we possess. It is also of great use in spasms of centric origin. In retention of urine from a spasmodic contraction of the neck of the bladder, we know of no better remedy; but for this purpose it must be given in full-sized doses. In suppression of the menses from cold, combined with pulsatilla, it has no equal. The dosage has a wide range—from the fraction of a drop to half a dram. It is seldom necessary to give the latter dose, though we have done so, in the retention of urine, as stated above, and in a few cases of puerperal eclampsia.

GERMLESS WORLD NOT DESIRABLE.—Suppose that air, water, soil, animals and plants have all been thoroughly sterilized in the bacteriological sense; suppose that by the universal application of an ideally perfect germicide every microbe has been killed, while higher living things remain unharmed; and suppose that no agents have been created to perform the functions of the extinct families? What is the result?

First, we observe with gratitude that we have done with a large number of diseases, acute and chronic, affecting beasts and men. Rinderpest and glanders have disappeared; anthrax no longer slays its thousands among sheep and cattle; tuberculosis in all its forms is unknown. The plague has vanished, never to reappear in the east or west. Leprosy, the mysterious scourge of many ages and many lands, at last dies out. In all probability we may expunge scarlatina, measles, and all the common infectious fevers from our text-books; certainly no one need fear cholera, typhoid, diphtheria, or erysipelas. In this changed world wounds and injuries are robbed of half their terrors, and surgeons take no precautions against septic trouble. Food-poisoning by ptomains is never heard of.

Sanitation becomes easy; evil odors are almost banished from

our streets. Various minor sources of annoyance have been abolished; milk does not turn sour, nor butter rancid; eggs keep always fresh; in the hottest summer our meat never becomes "high." It would almost seem that everybody should be satisfied, except the bacteriologict, whose occupation is done.

But very soon we begin to miss some things in our germless world. There is no beer, wine, or brandy, all the yeast-plants having perished by the germicide. No doubt chemists will sooner or later devise a substitute, but natural fermentation is at end. For the same reason artificial methods of aeration must be universally employed in making bread; the leaven that has been used for so many ages has lost its potency. Our cheeses will not "ripen," owing to the absence of certain bacilli that used to effect the change; and there is a distinct falling-off in the flavor of our best butter. The manufacture of vinegar is stopped, because there is no longer a *bacillus aceticus* to work upon weak alcoholic solutions. Along with these changes in our diet we seem to notice some impairment of our digestive powers, which may be explained by the absence of those innumerable micro-organisms which used to inhabit our alimentary canals, and which assuredly had some influence upon the processes therein. Certainly the health of our herbivorous animals suffers on this account; they lose the power of digesting the cellulose which enters so largely into their food.

This, however, would not be the worst of it, for to the microbes of the soil we owe the nitrification and other chemical processes that fertilize it and that enable plants to obtain their nutriment from it.

If the soil were rendered "sterile" in the bacteriological sense—that is, if all the lower fungi in it were destroyed—it would soon be sterile in another sense also; our crops would perish, and agriculture would come utterly to an end.

Neither grass nor herb yielding seed, nor fruit tree yielding fruit after his kind, could survive the deprivation of their natural nourishment; and as animal life is ultimately dependent upon plant life, the fatal consequences would not be confined to the vegetable kingdom.

But, indeed, when we consider the matter from another point of view, it becomes still more evident that the activity of these lowly forms is a condition essential to the continuance of higher life on the earth. For nothing is more certain than the fact that the processes by which organic bodies, animal and vegetable, are converted after death into simpler combinations

or into their ultimate elements—the processes known to us as putrefaction and decay—are absolutely dependent on microscopic organisms, especially bacteria. But if such processes did not take place, whence would be derived the materials for the construction of successive generations of animals and plants? The amount of carbon, hydrogen, nitrogen, oxygen, etc., available for the composition of living bodies in not an unlimited quantity, but is constantly utilized over and over again; there are necessary economies in the working of the laboratories of nature. At present all living things die and return to the earth from which they are derived, and their substances are again used to construct the substances of new living things. A part is at once assimilated by "necrophagous" creatures, the scavengers of the soil; but the important economy consists in the slow decompositions set up by bacteria, resolving dead organic matter into elements available for fresh life.

If these decompositions were to cease, if animals and plants were to remain incorruptible after death, how can we escape the conclusion that sooner or later the supply of such available elements must be exhausted, and life itself must come to an end?

GERMS, DISEASE PRODUCING.—The salivary glands of the mouth are the channels of ingress of nearly all disease germs; hence the importance of keeping the mouth shut. The method of breathing makes a vast difference to a man's health and longevity, for if he be a mouth-breather his vital elements are low, as he is continually taking in disease germs. It therefore makes quite a difference whether you breathe by the mouth or the nose. You can enter with immunity a most deadly swamp, a smallpox hospital, if you keep your mouth shut; there is no infection.

The mosquito as a carrier of the three-potency parasite of malaria is a mere humbug. Look to the salivary glands as the real inlet. Men who spit their salivary secretion by the use of either smoking or chewing tobacco are exempt from the entrance of disease germs. Women who before and after meals wash out their mouths with a warm ozonized boroglycerid solution are never the victims of microbic disease.

In gaping imbecility, the microbe of eipdemic influenza enters by the salivary glands and gives rise to its typical manifestationts—rigors, febricular pains, prostration and depression. Shut the mouth, suspend social intercourse, disinfect domiciles and administer concentrated tincture kurchicin orally to keep

the blood streams pure—free from germs. This remedy kills the pathogenic microbe, increases the resisting power, minimizes the chance of infection by making the various tissues of our bodies unsuitable for the growth of the bacilli; increases vital force. Don't mask the remedy; give it diluted, so that it will come well in contact with the salivary glands.

Mouth-breathers invariably suffer from tonsillitis, pharynigitis, laryngitis, bronchitis, with imperfect thoractic development, and a morbid predisposition to hypertrophy of the turbinated bones, together with the formation of adenoid growths in the naso-pharynx, which entail alterations in the voice and deafness—often congestive engorgement of the mucous membrane, which leads to nasal stenosis, which interferes with the passage of lymph along the ducts which traverse the cribriform process of the ethmoid bone, and by preventing the drainage of the brain entail mental hebetude, paving the way for serious mischief.

GLANDERS.—A disease peculiar to horses, an evolution under insanitary conditions of the bacillus mallei, communicated both by contagion and infection to all individuals brought in contact with those animals, such as grooms, jockeys, stall keepers, farriers, harness rubbers.

The lesions classified under this head are of two types, glanders and pharcy—the former showing itself in a specific inflammation, ulceration in the nasal mucous membrane; the latter, the lymphatics are involved.

In glanders proper, the septum nasi and adjacent parts, the mucous membrane exhibits an inflammation in which nodules form, gray, translucent, appearing with profuse, offensive, catarrhal discharge; ulcers, round, scooped out; often the entire respiratory passages, as well as the lungs, are involved; often associated with enlarged lymphatics of the neck and chest. Nodules are often found in liver, spleen, bowels.

In pharcy the lymphatics are first affected; they become swollen irregularly thickened, knotted like cords; suppurative softening usually follows; pharcy buds form and secondary nodules on the mucous membrane; scratches, abrasions on hands, arms, are the common mode of ingress in pharcy, local changes, followed by constitutional disturbance, and in both forms fever, and in many cases a specific eruption appears on the skin as well as on the mucous membrane of both nose and mouth—a papular rash, which goes on to the formation

of unhealthy ulcerations; abscesses under the skin, joints and muscles are of frequent occurrence.

Albuminuria; a low form of pneumonia often prevails; diarrhea, vomiting common in fatal cases.

The glander bacilli cause a rapid metamorphosis of all the structures of the body, essentially destructive. This pathogenic microbe appears in very many localities in an endemic form and many valuable animals die, besides many grooms are infected through abrasions and scratches on arms and hands.

Scientific physicians and eminent veterinary surgeons, cognizant of the habits, growth and toxins of the bacillus mallei, have little difficulty in staying the progress of the malady and in effecting a permanent cure in both man and horse. The remedies used with success are the iodide of lime every hour, alternated with chlorate and sulphate of quinine, and every three hours a dose of Chian turpentine mist. Echinacea also of utility.

The iodide of lime seems to meet precisely the indications; excellent results follow its use. These remedies are followed by protonuclein, which is of great value in glanders by creating a leukocytosis.

GLONOIN.—Nitroglycerin, is prepared by dissolving glycerin in nitric and sulphuric acids. For medicinal purposes it is dissolved and diluted in alcohol.

Physiological Action.—It is a prompt, powerful excitor of vasomotor action; accelerates the action of the heart, relaxes dilated arteries, causes a general sense of fullness, and is a direct sedative to the medulla oblongata.

Therapeutic Uses.—Of great utility in vertigo, headache, asthma, angina pectoris, neuralgia, chronic interstitial nephritis, seasickness, and disturbances of the intercranial circulation, asphyxia.

Preparations and Doses.—A one per cent solution in one, two or more drop doses; or a one per cent solution in pill form, as indicated.

Better than all preparations is the nitroglycerin suppository; acts silently but efficiently in all cases of suspended animation.

GLYCERIN.—The sweet principle of oils and fatty bodies; soluble in water and alcohol; insoluble in ether, chloroform and fixed oils.

A germicide and valuable menstruum. Its dehydrating property causes it to be a laxative when administered internally: this same property renders it of intrinsic value in many skin affections, as by drawing off the serum inflammatory action is relieved, cicatrization promoted. Its general use must ever be most emphatically condemned, in the form of a suppository for habitual constipation. Such suppositories drain off the serum, exhaust the mucous and serous coat, render the bowel weak, liable to disease, especially carcinoma.

GLYCOZONE.—This is a combination of dioxide of hyrogen and c. p. glycerin, in variable proportions some use it as weak as 2 ounces of the peroxide to 14 ounces of glycerin; others 4 ounces to 12 according to the therapeutic effect desired.

In any or all of its different strengths it is a powerful bactericide, destroys all disease germs. It is well adapted in this form for oral administration, good in dyspepsia, catarrh, ulcer, or induration of the stomach.

Well adapted for spray in aphthæ, enlarged tonsils, diphtheria, scarlet fever; also of great efficacy in ulcers; in this form it is of the greatest possible utility, for when it comes in contact with the tissues it liberates its ozone, vitalizes, purifies.

The value of this remedy consists in its evolving nascent oxygen. It is perfecly stable, a strong, active germicide, innocuous, covering a large field of usefulness, being antipurulent as well as antiseptic. Administer orally in a little water, in typhoid fver, dysentery, desquamative enteritis, and microbic affections of the alimentary canal.

Administered per rectum, once or twice daily, its action is unrivaled in ulceration of the rectum, diabetes, and chronic urinary affections.

As a mouth wash, gargle, and inhalant, it is exceedingly efficacious; in pulmonary tuberculosis, in wiping out the tubercular germ whenever it reaches it.

Spray a diphtheric throat with it, it promptly dissolves the membrane. Of immense utility in gynecological practice.

Applied to all cancerous sores, to breaches of continuity produced by the removal of malignant growths, it corrects their malignancy, their tendency to gangrene.

The dose internally, a few drops added to water and repeated several times a day. To open wounds, apply in full strength on cotton.

GOITRE.—At the root of the neck, just above the breast-bone, is situated the thyroid gland. In its healthy state this is an innocent-looking red body, consisting of two lobes joined together by a slender isthmus, and weighs a little over one ounce. Absolutely nothing was known about the use of this gland until recently, when it was discovered that its secretion possessed the vital elements of growth of every tissue of the body.

It is now very generally recognized that certain organs in the body may be tissue-starved, anemic, and otherwise incapable of performing their proper function, and that by the introduction of the very same chemical constituents of the organs impaired, or the analogous organs, or their secretion from some one of our domestic animals, the mischief or disease will be repaired, provided the organs of digestion and assimilation be intact; that is to say, if the brain be exhausted by struggle, care, worry, study, enjoin rest and administer brain juice, glycerite of kephalin; if the ever-moving heart muscle be exhausted, feed on creatinin; if the reproductive organs be weakened, lethargic, or altogether impotent, administer a solution of spermin; if the stomach fails through or by any cause to secrete, give its own juices as we have in the glycerite of pepsin; if there be a freak of nature, a chaotic construction, prescribe thyroid juice, so as to regain a perfect mechanism of body.

The juice of the thyroid gland is one of the most important secretions of the whole body and plays the principal part in the elaboration, preparation and maintenance of the blood and nervous system. We have in it a material prepared which is rendered subservient to brain evolution, growth, nutrition and most perfect construction, and calculated to keep all parts of the body in most perfect development.

The juice of the thyroid gland of many of our domestic animals is chemically identical with that of the human being. The fresh glands for administration are not always procurable, hence various pharmaceutical products of the fresh thyroid have been prepared. There has been great difficulty experienced in preserving its vital properties, for in either drying or desiccating them, it is lost.

There is only one reliable method of preparation, and that possesses distinct and unique advantages over every other form of thyroid medication, and that is the ozonized glycerin extract, prepared from c. p. ozone and glycerin, together with the fresh juice of the throid without heat or drying. In this

form we have a splendid preparation, an unexcelled purified extract of the thyroid body, free from all extraneous substances, uniform in strength, a permanent preparation which will keep in any climate, never decompose, well suited for internal administration, mixes readily in water or cold beef-tea or soup, and can be taken by the most fastidious.

The practical bearing of these facts amount to this: that in the administration of a remedy so potent, of an organic animal nature, having immense, inconceivable powers in constructing and reconstructing the human system; the energy of which is so far-reaching, as the very pillarizing of the human brain and increasing its capacity for intellectuality, great care and scientific skill must be observed.

The pure ozonized extract of the thyroid gland positively cures myxedema, cretinism, idiocy, imbecility, insanity, feeble-mindedness, psoriasis and lowered state of the human body which calls for a renewal of life. The remedy is one of prodigious power, and if given in the ordinary routine of life, its use will make the mind brilliant, ideas rapid, restores the memory, and retards or prevents the approach of age. It gives elasticity to the step, animation to the speech, quickens all the vital functions of the body; renews mental as well as physical activity, reinvigorates, revitalizes.

The dosage, generally speaking, and the one best adapted for cases generally, is from five to ten drops once a day, best administered either in water, cold beef-tea, or any fluid food; and there must be no change made until there is a complete cure.

Whatever the disease may be, it is thyroid juice all the time; but all other animal extracts are compatible with it. For example, if there be a brain wreckage, kephalin, oats and thyroid juice can be given with success; if there be heart failure, creatmin from the heart muscle can be given with small doses of thyroid; if the reproductive organs are blighted, impotency prevailing, thyroid juice and solution of spermin are admissible.

GONORRHEA (*The Gonococcus*).—An irritation, inflammation of the mucous membrane of the urethra in the male, and vagina of the female, accompanied with a mucopurulent discharge, in which the gonococcus can be detected, is one of the most common affections of the present day, pervading some of the inmates of every dwelling.

Therefore its etiological significance, its ravages and treatment, should be thoroughly familiar to every practitioner.

In making a diagnosis, we must not depend too much upon the pain in urinating, nor upon the mucopurulent discharge, nor upon other symptoms of inflammation, but rest upon a microscopical examination of the discharge.

The great danger of gonorrhea is that it does not remain localized, but migrates in men from the deep urethra to the epididymis, prostate gland, bladder, ureters, kidneys; in women, to the uterus, Fallopian tubes, ovaries, with their peritoneal coverings, and to parts that would seem inaccessible.

Early treatment, prompt, energetic, which should aim at the destruction of a germ in the urethra or vagina.

After urinating, copious, antibacterial irrigation, with an ozonized distillation of eucalyptus, followed by the insertion of a thallin bougie; in women, vaginal injections of a solution of boroglycerid, to which peroxide of hydrogen is added, at least thrice daily.

Internal medication should be promptly administered, and as the germ produces extensive devastation in the reproductive organs of both sexes, the best remedy the materia medica can afford should be given.

For very many years the profession have depended upon balsam copaiba, sandal-wood oil, cubebs, kava kava, salol, petroleum, and within the past year the balsam llaretta. This latter remedy is a high-graded germicide. A balsam derived from the *Haplopappus llaretta,* which grows abundantly in the northern part of Chili. Indicated in gonorrhea and all discharges from either the male or female genital organs.

Our readers are thoroughly conversant with the fact that in all maladies which owe their origin to a disease germ, morbid action is intensified on its passage from one race to another.

The pathogenic microbe of gonorrhea is often the result of an evolution, the degradation of the elementary molecules of nutrition of the sexual organs. If we examine microscopically the mucus in the urethra of the masturbator we find it there; also in the urethra of all men guilty of promiscous sexual intercourse; in the urethra of every man who has coition with a prostitute; so in women who permit the embraces of numerous men. It is a germ that is very prevalent—80 per cent of all the women who to-day are curetted, castrated, or mutiliated in some way, can be traced to the gonococcus.

In the process of bacterial growth it evolves a toxin which has an affinity to all the white fibrous tissues of the body, the testes, thyroid, conjunctiva, synovial membranes, etc. In both

sexes, the gravity of the affection is far-reaching; indeed, the destructive effects of the toxin of the gonococcus cannot be duly appreciated. Gonorrhea, then, is a grave affection, and merits prompt, energetic treatment.

The first essential element is to kill the germ which is the factor of inflammatory action. For this purpose, after every act of micturition the urethra should be thoroughly injected or washed out with the following: Ozonized distillation of eucalyptus, one ounce; water, three ounces; mix. Use only as an injection. On or near retiring every night as long as symptoms indicate, a thallin bougie should be inserted. Thallin is a deadly enemy to the gonococcus; inserted into the urethra, permitted to dissolve, it penetrates into all the crypts and follicles of the mucous membrane, and kills the germ.

The remedy for internal use must be one that is incapable of being used up therapeutically in digestion. Such a remedy we have in mistura llaretta, which should be administered in half teaspoonful doses every three hours. It is the best remedy we possess, being an active germicide, is passed in the urine in fine molecules, which, coming in contact with the gonococci, immediately kills them.

This treatment is good, but it must be aided by the observance of great cleanliness by frequent bathing of the affected organs in hot water, by rest, by keeping the bowels in a soluble condition with salines, and the urine alkaline.

To aid in subduing inflammatory action, preventing erections and chordee, it is well to give one or two doses of the green root tincture of gelsemium every evening until subdued.

GONORRHEA IN THE FEMALE.—A multiplicity of causes give rise to an evolution of various micro-organisms in the genital tract of the female, all giving rise to a mucopurulent discharge, which in all cases is highly contagious and will produce the same discharge in the male if he happens to be a weakly subject.

The old theory still holds good, promiscuous sexual intercourse, few women among many men, masturbation, immoderate sexual congress, vegetations, such as warts, eruptions due to errors in diet, ascarides in the rectum, and many other causes, as bicycle riding, all are productive of a degradation of the living matter of the parts and the evolution of the gonococcus.

Whether the pathogenic gonococcus be the outcome of a normal evolution, or due to direct contact, it is usually found in both the urethra and vagina, and too frequently it is permitted to migrate to the uterus and ovaries.

Gonorrhea may be taken from any woman, however virtuous she may be, provided the mucous membrane of her genital tract be altered or degraded by adverse states. The mucous membrane of the vagina of every woman who rides a bicycle is capable of communicating clap in sexual congress; it is a gonococci laboratory from which a weak man has no escape.

The administration of the mistura llaretta is equally effective in the female as in the male. One teaspoonful thrice daily, vaginal injections of ozonized boroglycerid, warm and copious, are esteemed effective, followed by a pastil of either the boroglycerid or nympha odorata. Either of these pastils stamps out of existence this disease disseminating microbe and promotes a renewal of life in the infected parts.

GOUT.—Gout occurs with exceptional frequency in persons whose forefathers suffered from the disease, and it is thought that there is some hereditary defect in the cells of the progenitor, continued in the offspring through the ovule and spermatozoa. In gout there is an impairment of metabolism as regards nitrogenous matter—in an inability of the tissues to effect the complete destruction of albumin.

Diabetes consists in the want of power of the tissues to effect the combustion of sugar—to complete the transformation of the carbohydrates. The incomplete destruction of waste products loads the system with acids, which diminishes the solubility of uric acid and certain toxic agents, which give rise to albuminuria and nephritis.

Whether gout be inherited or acquired, it is an inherent vice of nutrition, with demoralized liver and kidneys. This very inadequacy leads to the formation of uric acid. It is a diathesis with an abnormal state of the protoplasm, the outcome of a cerebral neurosis.

Gout then is a nutritional disorder, associated with an excessive formation of uric acid, and characterized by attacks of acute arthritis, in which the urate of soda is effused in and about the joints, and by the occurrence of irregular constitutional symptoms.

Whenever this urate of soda is effused, symptoms of gout will be manifest.

Sedentary occupations, curtailed physical exercise; cerebral depression; digestive disturbance, a gnawing feeling in the stomach; lassitude, followed by a great increase of uric acid, and an accumulation of urates in the blood; all the white

fibrous tissue of the body liable to have effused in or on them, especially in the small joints, urate of soda; ligaments, valves of the heart filled with the same deposit, also the membranes of the brain.

Deposits of urate of soda are also found in the fine papillæ of the kidneys, which give rise to interstitial nephritis, and albuminuria.

Among all men and women who eat largely of meat, drink freely of beer or wine, live sedentary lives, indoors, whose blood is insufficiently aerated, a gouty diathesis is created.

The symptoms of this diathesis are protean in number, but may be briefly epitomized as follows:

Occasional bilious attacks, with foul breath and tongue; constipation; sallow skin, yellow conjunctiva, denoting a torpid liver; pain around the heart; darting pains in the joints and bones; a feeling of faintness and vertigo; heat, often itching in the skin, feet; cramp in the legs; periodical headache; high-colored urine, strong acid reaction, albuminous. This may be all the time or periodically, or after an increase of symptoms. Sugar often found in the urine; great liability to the formation of calculi.

In the treatment of gout, the patient must keep his skin active by daily sponging and prolonged massage; warm flannel; exercise in the open air; lead a quiet life; eat sparingly of plain but nutritious food; avoiding all amylaceous substances, saccharine articles, salt meats, sweet fruits, hot bread and stuffing.

Another but identical view of this disease is that it is a painful disease affecting principally the smaller joints, particularly those of the toes. It is usually *hereditary,* but is often *acquired.* As a rule, it is a disease of the latter half of life, but in hereditary cases may appear much earlier. The immediate cause is an excessive accumulation of uric acid in the system, due to want of exercise, overindulgence in rich food and alcohol, and luxurious living generally.

Gout, when it only affects the joints, is said to be *regular;* when it attacks the various organs it is said to be *retrocedent* or *irregular.*

Symptoms.—An *acute* attack is usually preceded by digestive disturbances, irritability, and scanty high-colored urine, but in many cases it comes on without warning, usually at night, by the sudden onset of intense pain in the great toe, which speedily becomes red, glazed, swollen, and smooth. At the same time there is some fever, constipation, and restlessness.

A disease in which uric acid is present in the blood and tissues in the form of sodium biurate.

The formation of uric acid is in the liver, imperfect aeration of the blood; an excess of animal food and alcohol inflicts an injury upon the metabolic activity of the liver, equal to the toxin of malaria. The ozonized uric acid solvent, when administered, is a powerful stimulant to the liver and intestinal glands; a cholagogue which diminishes the output of uric acid.

The cause of gout is indigestion; the uratic deposits are responsible for the symptoms, together with a failure of the kidneys to eliminate toxins.

Numerous are the morbid conditions due to the presence of uric acid in the blood, such as acute uritic arthritis, chronic uritic arthritis, uratic deposits, dysphagia from spasm of the esophagus; dyspepsias, as cardialgia, gastrodynia, pyrosis, enterodynia, palpitation of the heart and large vessels, irregular cardiac action, angina, chronic arteritis (aneurism) and phlebitis; laryngo-pharyngeal catarrh, bronchitis, asthma and dry pleuritis; chronic interstitial nephritis, primary renal gout, uratic gravel and calculi, cystitis and irritable bladder, prostatitis; neuralgias, lumbago, sciatica, hemicrania, cramps of muscles, hysteria, hypochondriasis; ophthalmia, conjunctivitis, iritis, otitis, eczema, psoriasis, and vulvar prurigo and acne.

GRAVEL.—There are three forms of gravel recognized: a hard, reddish-brown powder, or crystals of uric acid and urates; a brown, hard, nodulated substance, oxalate of lime; a white or gray powder, phosphate of lime.

RED GRAVEL consists of uric acid, sharp crystals, which cut, tear, lacerate tissues, give rise to hemorrhage.

URIC ACID DIATHESIS.—Red gravel, due to degenerative changes in the tissues. It may be hereditary, peculiar type or conformation, monotony, isolation, sameness; digestive troubles, excess of animal food, insufficient exercise, especially out of doors; violent mental emotion, blows, wounds, disease with its destructive metamorphosis, favor its production. Much more prevalent among the inhabitants of cities and the rich than in the country; inactivity, excess of food, provoke its formation. It is a near relative to gout and diabetes.

To an individual possessing this diathesis, a diet of beef, beans, tomatoes, a choice and unsparing cuisine, are most productive of it, besides wines, beer, ale, brandy, favor the agglomeration of uric acid in the kidneys.

Irrespective of all causes, the want of sufficient exercise in the open air is the most worthy of notice, for if he does not oxidize the nourishment he takes, he must forever remain a sufferer.

The formation of uric acid, its presence in the kidneys in excess of what the urine can carry off, leaves a deposit in the kidney which will give rise to pain of variable intensity in the kidney, bladder, urethra; hence the danger of renal colic, hematuria.

Perverted nutrition invariably gives rise to uric acid, and if this is not excreted, gout or rheumatism is ushered in.

The nitrites clear the blood of uric acid, dilate the blood-vessels, promote free elimination.

The presence of a large percentage of uric acid in the blood will irritate any weakened tissue or gland, and give rise to an indefinite number of maladies.

GRAVEL, RED OR URIC ACID.—In health the urine is very slightly acid, but very nearly neutral; but when there is disease, when the co-ordinating chemical centre is damaged or weakened, there is a perversion in nutrition, and the urine will be found acid. The acid diathesis, then, is a state in which the nerve-centres are impaired, and the starchy or saccharine elements of the food are changed into uric acid instead of fulfilling the purposes of nutrition.

Causes.—The causes that act upon the co-ordinating chemical centre in producing this faulty condition of digestion and assimilation are numerous, as monotony of life, isolation, solitary confinement, sameness of diet and habits; mucous dyspepsia, disease of the liver, and pancreas; imperfect aeration of blood by skin and lungs; rapid oxidation of the fibrin of the blood, as we have in fever and inflammation; excessive muscular exercise; the lactic acid of rheumatism is changed for the purpose of elimination into uric acid.

Symptoms.—It is to be recognized by the persistent and more or less copious deposit in the urine of a brick-dust sediment; it may be only a few grains, and in some cases it is quite considerable. In mild cases it may not appear till urine has cooled; in more severe forms, it is deposited at once. There is always associated with it depression of the nervous system, in some cases amounting to prostration; undefined sensations of irritation in the loins; sometimes excruciating pain in the kidneys; nausea, vomiting, aching in the thighs; retraction of the testicles; irritation of ovary; itching at the orifice of the

urethra; irritable bladder, with continence or incontinence of urine. The passage of the urine causes a burning or smarting sensation; and when the uric acid crystals are large, a cutting, tearing sensation, as if particles of glass were being passed, with bearing-down and prostration.

Treatment.—Special attention should be made to give the patient immediate relief, and this can only be done by the immediate administration of large doses of the green root tincture of gelsemium and passiflora, following these with the uric acid solvent and the removal of causes.

GRAVEL, WHITE, OR THE PHOSPHATIC DIATHESIS.—This is a cachexia in which the urine is persistently loaded with phosphates and chlorides, which are deposited in the form of a floury mass, or white, gritty substance, calcareous in its character, called white gravel. The urine may or may not be alkaline.

When human urine becomes alkaline, it is due to one or other of the following conditions: To excess of the alkaline carbonates of potassa and soda, which is apt to occur after a meal, especially of fruit and vegetables; to excessive elimination of the phosphates, as in brain and bone waste; to the formation of ammonia in the urine from decomposition of urea.

The reaction of the healthy urine in the twenty-four hours is slightly acid; but if separate samples are taken at different intervals, great variation is observed; and these are constant. The acid reaction increases and diminishes, commonly, with the secretion of gastric juice,—acid before a meal, alkaline after and during digestion. This is called the alkaline tide, and may be caused by the entering of newly-digested products into the blood, or a preponderance of alkaline bases in articles of diet.

There is another channel by which acid is withdrawn from the blood besides the gastric juice secretion, and that is by the lungs. The exhalation of carbonic acid gas by the lungs is increased by food and the conscious state, and diminished by fasting and sleep.

The urine need not, however, be alkaline, in the phosphatic diathesis; it is sufficient, in order to constitute this condition, that there be an excessive elimination of brain elements, that it be loaded with phosphates, the metamorphosis of such tissue.

Causes.—Cerebral exhaustion, shattered nervous system, nervous disease, nervous dyspepsia, chronic disease, irritation transmitted, study, worry, gout, sexual excesses, etc.

Symptoms.—The general indications are those of an intense

nervous temperament; white skin; sharp features; emaciation; some chronic or nervous disease. There is no pain or irritation whatever; hence it is often unobserved by the patient; so there are few symptoms but the amount of gravel present in the urine each twenty-four hours, which, grain for grain, represents so much waste of brain-tissue, just as the uric acid represents fibrin, muscle, etc. If the alkaline condition be present, it is due to two causes: either from the presence of the carbonate of a fixed alkali (potash or soda), or of the alkaline phosphate of sodium; or from the presence of the carbonate of the volatile alkali, ammonia, which is due to the decomposition of urea.

The white gravel that is deposited in the last, the decomposition of urea, is formed as follows: Healthy urine contains phosphate of magnesium in a state of solution; if the urine becomes alkaline from decomposition of urea, a portion of the ammonia combines with the phosphate of magnesium and forms a triple salt, which is insoluble in the urine. This triple phosphate is usually an admixture of phosphate of lime. Urine of this kind, being allowed to settle, a scum forms on its surface, which, under the microscope, resembles the salts we have described. But the urine may become alkaline from the presence of the carbonate of potassa or soda, and then, no ammonia being present, instead of the triple salt, there is a deposit of amorphous phosphate of lime. In these cases the urine is generally alkaline, pale, copious, slightly turbid, of a low specific gravity, and of a peculiar odor. In these cases select ozone water alternated with kephalin granules, then use in alternation nitromuriatic acid and cinchona.

GRINDELIA.—The entire herb *Grindelia robusta*, which grows in California, is used.

Therapeutic Uses.—Possesses strong bactericide properties, which render it of great value in all microbial affections of mucous membranes, as whooping- cough, asthma, bronchitis, ophthalmia, leukorrhea, uterine catarrh.

Preparations and Doses.—Fluid extract is the best form for general use. Doses, variable from 10 to 30 drops and upwards.

GROWING PAINS.—Are supposed to exist when the osseous system grows more rapid than the muscular.

This condition is common in our large cities, where bony nutrition is defective owing to the phosphates in bread being destroyed by alum and ammonia.

Myalgia from fatigue: this is the commonest variety, usually about the knees and ankles after unusual exertion. They are probably due to auto-infection brought about by excessive production of effete materials in the blood and their inefficient elimination. Elevating the limbs and rubbing with the palm of the hand in a direction towards the heart, relieving venous stasis and facilitating a supply of healthy blood to the exhausted muscles promptly quiets the pain. Rheumatism: this is second, if not first, in frequency. There are slight pain in the joints, little or no swelling, and very mild fever, and hence the true cause is recognized; but rheumatic, endocarditis frequently develops in these cases. Diseases of joints and bones of the lower extremities: Cases of hip-joint disease and suppurative epiphysitis of the upper end of the fibula, diagnosed by the laity and allowed to go on untreated, are related under this heading.

GUAIACOL.—A bactericide isolated from creosote, a strongly refractive, oily, colorless, limpid liquid, of an aromatic odor, soluble in 200 parts of water, especially destructive to the tubercular bacilli, and has the remarkable property while being taken of augmenting vital force.

A most eligible method of administration is as follows: Guaiacol, 15 grains; alcohol, 8 ounces; fluid extract American columbo, 1 ounce. Mix. Dose: from 5 to 15 drops added to water after meals, which can be gradually increased; it kills the bacilli as an inevitable result, a disappearance of cough, hectic, sweats, emaciation with a remarkable increase of appetite. A splendid remedy with which to alternate the glycerite of ozone.

The guaiacol mistura ozonized is the best form in which to administer it; this is composed of guaiacol, glycerin, American columbo, and dioxide of hydrogen.

This preparation is of inestimable value in every case of tuberculosis. Its antagonism to that germ is well known, and its power in eradicating it from the blood and tissues duly appreciated. A germicide capable, when administered, of rendering the whole body unfit for microbic growth, soon becomes appreciated by the profession.

My experience with mistura guaiacol in typhoid fever has been quite extensive, and in every case most salutary, for besides killing the bacillus in the intestinal glands, neutralizes the toxins, it exercises a remarkable influence over nutrition, digestion and assimilation.

Mistura guaiacol has a remarkable influence on the vital forces of the body, enabling them to resist the evolution and growth of disease germs; it has a direct inhibitory action on all bacteria.

Take it all in all, it is very doubtful whether in the entire materia medica we have a remedy equal in value to the guaiacol suppository in the treatment and cure of tuberculosis. First unload the rectum, thrice daily, with small enemata of some nutrient fluid, and as soon as passed insert and retain a guaiacol suppository. Its steady, persistent use soon, very soon, renders all the solids and fluids of the body untenable for either the bacillus of tubercle or its toxin. It is a perfect annihilator of the germ; hence cough, hemoptysis, night sweating, diarrhea, wasting, etc., rapidly disappear, followed by reconstruction of vital force. Even inhalation in severe causes must not be overlooked.

GUAIACUM.—Fluid extract prepared from the resin is of great efficacy in the destruction of the amylobacta of rheumatism. A decoction of the wood administered freely is also a germicide and diaphoretic, valuable in rheumatism.

GUARANA.—The seeds of *Paullinia sorbilis,* growing in Brazil.

Chemistry.—It contains an active principle called guaranin, which is identical with caffein, tannin, gum, extractive matter.

Therapeutic Uses.—Being a powerful nerve stimulant, it is valuable in nervous or anemic headaches; its astringent properties render it of efficacy in diarrhea and dysentery.

The best preparation is a well-prepared fluid extract in doses of from 10 to 30 drops as indicated.

The elixirs have little medicinal property, but contain chiefly bad whisky.

HABITS.—Man has both instinctive and moral faculties, and is in addition a creature of habit, with too often a perverted appetite to the use of alcohol, tobacco, opium, chloral, arsenic. In the eradication of these states of perversion, absolute control of patient is necessary to success; then diminish dose by dose without the knowledge of the patient, and substitute coca with tincture of oats or full doses of passiflora incarnata, alternated with cerebrin, with two hours' massage morning and night, followed by electricity.

Success is promoted by correcting abnormal condition of digestive functions by appropriate remedies. It is most important to keep patient well nourished.

Habits are becoming fearfully common throughout our entire country, the largest proportion of which are caused by a want of thought on the part of the attending physician.

There is a numerous class of neurotic people for whom the physician cannot prescribe alcohol, morphine, chloral, cocain and similar drugs without the danger of starting a habit, which eventually terminates in a disease. Sensitive, weak people, full of pains and aches of a fugitive and erratic character, susceptible to the slightest fluctuations of temperature, atmospheric changes, etc., with minds always dwelling on their infirmities, soon discover that such a prescription lends them artificial, unreal strength, a deceptive feeling of well-being. They are unable to reckon the cost, and even if they were made to understand that the sense of strength and calmness, or exhilaration, is temporary, due to a physical illusion, produced at the expense of vitality, are often so reckless or so helpless that they will not forego the habit.

A physician thoroughly cognizant of man's instinctive and moral nature locates all the trouble in the great sympathetic. Clinically it has been very extensively tested that if a half or more of a teaspoonful of ozonized passiflora were administered with the habit-forming remedies no habit would be formed. No craving would exist, and even if formed would be blotted out.

The coming remedy of the twentieth century is to be ozonized tincture of passiflora incarnata in every prescription; for every disease to which the human body is susceptible it will be given. No matter what the malady may be, passiflora is indicated to vitalize the great sympathetic, the seat, to obliterate all neuroses.

HAMAMELIS.—The bark and leaves of the *Hamamelis virginiana,* which grows in Canada and the United States.

Therapeutic Uses.—Possesses invaluable astringent, styptic properties, and is useful in hemorrhages from mucous membranes, as in epistaxis, hemoptysis, hematemesis, menorrhagia, hemorrhoids, hematin bruises, wounds.

Preparations and Doses.—Fluid extract in doses of one or two drams.

The ozonized distillation of the green leaves contains all the

"hazelin" of the witch-hazel; the volatile principle, a clear, elegant and efficacious product, is unequaled for contusions, sprains, swellings; its properties are highly germicidal, anodyne, sedative, styptic, tonic, astringent—also used internally.

The ozonized distillation excels all other preparations.

HARELIP.—Harelip is one of the commonest of congenital deformities, due to alcoholic conception, and takes its name from the resemblance to the cleft lip of the hare, with the difference, however, that in the latter the cleft is always in the middle of the lip, whereas in the child the cleft is to one side or the other of the middle line. Harelip is frequently associated with the condition known as cleft palate, and probably the origin of the deformity is the same in each case.

The principles on which the success of the operation depends are simple. The edges of the cleft must be pared, so that when brought together the raw edges may unite. These edges must be brought together so that the red line of the lip is continuous. During healing the parts must be kept perfectly at rest. The raw edges are usually kept together by means of long pins which pass from one side to the other of the wound. The ends of these pins project out of the skin, and are kept in position by means of catgut, or other forms of suture, which is passed over each projecting end from one to the other in figure-of-8 fashion. Outside all, the parts are drawn together by means of a long strip of plaster passing from cheek to cheek.

After the operation the child is able to feed by suction, and it is advisable that the mouth should be opened as little as possible. If the child be not an infant, care must be taken to prevent it from meddling with the pins, etc. In order to do this it is even found at times necessary to tie the child's hands in such a manner as to make it impossible for it to touch its mouth. The harelip pins should be removed on the second or third day after the operation; if retained any longer they give rise to a furrow in the lip which is afterwards followed by a scar. The stitches may be left in a day or two longer. When removing the pins the surgeon usually takes care not to disturb the figure-of-8 ligature, for this becomes encrusted with blood and adherent to the lips, and thus helps to hold the parts in position. The strap of sticking-plaster is kept on until complete healing has occurred—that is, for about a fortnight.

HAY FEVER OR ASTHMA (*Bacillus Subtilis*).—So-called hay fever, because the pollen of certain grasses, coming

in contact with the periphery of the olfactory nerve in the nose and sinuses of the head, Eustachian tube, lachrymal duct, give rise to altered nutrition, a degradation of primary elements into other living matter, a disease germ.

In every case of hay fever there exists in the affected individual a predisposition, a neurasthenic condition which permits of the pollen exciting, evolving this peculiar bacillus.

The recognition of hay fever is easy; there is an intense poverty of nerve force, a perfect state of neurasthenia; then the season and susceptibility, hay, roses, grapes, ragweed—general languor, lassitude, debility, headache, sneezing, lachrymation, goneness, cough, wheezing, bronchial irritation, pyrexia, general disorder of the whole body.

In microscopical examination of the nasal discharge the bacillus subtilis is seen in the form of cylindrical rods of variable lengths and breadths. Originally they appear as threads, which become developed into rods and cocci. They are motile and provided with a flagellum at each end.

Precisely the same microbe can be obtained from an infusion of hay, or dog-grass, which can be isolated, and will grow prodigiously in any nourishing medium, by spore formation and division by segments.

The microbe is pathogenic of hay fever or asthma; bears cultivation well in any vegetable infusion. The inoculation of the cultures or their hypodermic injection into animals produces the disease.

The germ in its growth in individuals greatly broken down excretes a ptomain of a very toxical character, which gives rise to great constitutional disturbance.

To sterilize and completely annihilate this bacillus there must be a union of different forms of bactericides, as it is often impossible to move patients from the sphere of contagion.

An excellent plan is to sterilize the lining membrane of the nose by the introduction of jelly of violets, painting it on the interior of the nose or a few grains can be dissolved in tepid water as a douche, or by painting the parts with resorcin or thymol jelly, or ozonized iodine; or inhalations of menthol, or thymol.

Bactericides internally should be administered so as to sterilize the blood, thus prevent spore evolution; the best remedies for this purpose are the distillation of the pine needles: nitroglycerin; nitrite of amyl; comp. syr. tolu; sulphate of spartein; euphorbia pilulifera; pyridin. Apply the jelly of vio-

lets in all cases. Although the jelly of violets, which is incomparable in its action, relieving and curing the worst cases, even when the eyes and nasal organ are badly affected, and in old chronic cases of ten or twelve years' standing, it is a specific.

HAZELIN.—The actice principle distilled from the *Hamamelis virginiana* by the aid of ozone gas gives us a remarkable germicidal remedy, and a tonic, and hemostatic. This ozonized preparation is a pleasant, slightly acid, clear, fragrant liquid, and is soothing, cooling, bland, astringent, and kills all microbes with which it is brought in contact.

One of the best, non-irritating germicides that can be used in any form of nasal catarrh. As a mouth wash and gargle for aphthæ, nothing can excel it. It has a softening, healing influence on the skin, and is excellent for bleaching all cutaneous discolorations.

In all forms of *ophthalmia,* as a local antiseptic, its action is unexcelled. Under its use, diluted with an equal part of water, poured on absorbent cotton, kept constantly wet and applied to the eye, pain, intolerance of light, redness, mucopurulent discharge, cease; it acts promptly, most admirably.

It annihilates bacteria, whenever brought in contact with this microbe. If the erysipelas blush is kept moist with it, the germs as they appear on the skin are killed.

It is well known that in embolism, thrombosis, phlegmasia dolens, membranous dysmenorrhea, the blood of the affected individual is germ-laden with bacteria, and that the old treatment with belladonna and preparations of potassa to keep up the fluidity of the blood is entirely superseded by the internal and local use of this never-failing germicide. It is this action which renders it so valuable in piles; indeed, its utility in varicose veins, varicocele, if its use is persevered with, all varicosities are permanently and effectually removed.

Its astringent properties are much superior to ergot or digitalis in hemorrhage, either from the lungs or uterus.

As a dressing to wounds it is of very decided value, invariably promoting union by first intention.

HEADACHE.—Headache depends on many causes: nervous is the most common, dependent on a poverty of nerve force; congestive, due to worry, overwork, exhaustion, stooping; bilious, from impaired action of the liver; microbial, due to inhaling germ-laden air, as sewer-gas; reflex, as irritation in

stomach, bowels, liver; anemia, exhaustion from loss of blood; cerebro-spinal anemia, a sensation as if a nail was being driven into the head.

Regulate all secretions; daily alkaline bathing; use the shower-bath; flannel clothing, nourishing food, avoidance of brain tension or worry.

After cause has been removed, select special drugs to meet the different forms, as passiflora; nitroglycerin; nitrite amyl; coca wine; cinchona; gelsemium; guarana or caffein; aconite; belladonna; sambul.

The periodical recurrence of headache with many persons is a grievous affliction. Those who suffer from it should correct every habit and avoid all indiscretions which they know are likely to be followed by an attack. They should also overcome every derangement of the system which exists, if possible, and strengthen every part and function of the same. In fact, they should treat at first not the head and its aches, but endeavor to build up the general health. In the attempt to do so they must not indiscriminately dose themselves with drugs, but rather depend upon pure air, exercise, sufficient sleep, good, wholesome food, and other measures of like character.

One of the greatest essentials in treatment will be a careful selection of diet and a rigid restriction to those articles of food which, in their experience, have proved the least burdensome to their digestive organs. There is no dietary which is alike suited to all. Each must learn what, and how much, is proper for him or her to eat, and what should be avoided, and those substances which are known to be difficult of digestion should never be indulged in. While careful not to tax the stomach, they must keep the bowels active. If constipation exists, headaches are quite certain to occur.

Under this simple treatment, if properly employed and persisted in, many who are victims of sick headaches will suffer less often, or escape entirely, those distressing visitations.

Perpetual headache—a headache which can be readily confounded with true migrain, as there are paroxysmal exacerbations, although there is no vomiting or nausea. The headache is generally localized in the frontal region, rarely in the temples, vertex or occiput. The trouble possesses none of the characteristics of syphilitic headache. It is more frequently found in women than in men, and is generally associated with neurasthenia. Give in such cases periodate aurum on retiring and before every meal a kephalin granule.

HEART, THE.—The heart is the central organ of the circulation, is placed obliquely in the chest, the base upward, the point, or apex, being so situated as, in the living body, to strike the side of the chest, or beat, between the fifth and sixth ribs, about two inches below the left nipple; this point, however, and indeed the position of the heart generally, is liable to alteration according to the position of the body. The size of the heart is generally computed to be a little more than that of the closed fist of the individual; the organ is contained in its own proper bag, or pericardium, which in the healthy state is lined by an extremely smooth moistened membrane; this membrane is also reflected or carried over the surface of the heart itself; and thus during the constant motion the two surfaces glide easily and without friction over each other, the heart lying sufficiently loose in its bag to permit of free movement. The heart is often described as a hollow muscle; it consists of four cavities, surrounded by muscular walls, and is, in fact, a double heart, this being requisite for the performance of the double circulation—through the body and through the lungs. Of these four cavities the left auricle and ventricile are devoted to the circulation of the blood through the body after its return in a purified state from the lungs; the right ventricle and auricle being devoted to the lung circulation. The course of the circulation may be traced through the great veins, which ultimately terminate on the right side of the heart in the right auricle; the blood then passes into the right ventricle, from which it is propelled through the pulmonary artery into the lungs, where, coming into contact with the air, it becomes arterialized or purified; it is afterwards returned to the left side of the heart to be propelled by the left ventricle to all parts of the body, through the medium of the large blood-vessel, the aorta.

The auricle and ventricle on the right side of the heart have not, when properly formed, any communication with the corresponding cavities on the left side; but the auricle and ventricle on each side are separated from each other, and from the blood-vessels with which they are connected, by means of valves—so arranged and governed in the motions of the heart that the blood can only pass in the right direction when the valves are in a healthy state; but should these valves become diseased in any way, the proper currents of the blood are interfered with, and disease is the result. Thus the passage from the great blood-vessel, the aorta, to the heart is closed by three "semi-

lunar" valves, which allow the blood to pass freely into the vessel, but should it attempt to return, these bag-like valves instantly close the passage—the blood itself acting as the closing agent—and this action takes place once for every beat of the heart.

At every contraction of the ventricles the heart raises itself somewhat, its point presses forward and moves slightly from left to right, and also twists from left to right, owing to the spinal course of some of the heart fibres. Like any other muscle the heart becomes harder during contraction, and its length is diminished.

When the heart is listened to two sounds are heard, which are called the first and second sounds of the heart. The heavy sound heard at the moment of the heart-beat is the first sound; the sharp, clicking sound which immediately follows is the second. The first sound is caused by the closing of the mitral and tricuspid valves, by the contraction of the muscular substance of the heart, and by the impact of the heart against the walls of the chest. The second sound is due to the closure of the aortic and pulmonary valves after the contraction of the ventricles. The average rapidity of the heart's beat is about seventy pulsations to the minute in the male, seventy-five to eighty in the female; but this is subject to considerable variation with age, etc., under various circumstances. In childhood the pulse is more rapid. Exercise, postures demanding exertion, such as standing, increase the rapidity of the heart's action.

The nerves of the heart have been a subject of interest with pathologists. They are derived chiefly from the ganglia of the great sympathetic, a few only coming from the pneumogastric, but these latter seem rather to inosculate or communicate with the plexuses of the former than to directly supply the texture of the organ. The cardiac ganglion seems more particularly to preside over the actions of the heart, or to reinforce with additional energy whatever it may receive from other sources, especially from the centre of the ganglial system, and the other ganglia in the neck and chest. These nerves supply the substance of the heart in two ways: 1. There are numerous branches which proceed from plexuses directly to the muscular texture, and which, dipping between the fibres, give off minute fibrillæ to the muscular fibres next to them in their descent into the substance of the heart. 2. A large portion of the cardiac nerves form a reticulum around the coronary arteries. A part of these follow the arteries to their distribution; but before

these arteries are ramified minutely, a part of the nerves surrounding them is detached to adjoining tissues, so that all the nerves reticulated around the coronary arteries do not accompany them to their ultimate distributions.

The actions of the heart may reasonably be referred chiefly to the influence which the ganglial nervous system bestows on the muscular structure of the organ.

The principal organic diseases of the heart include pericarditis, endocarditis, valvular disease, dilatation, hypertrophy and degenerations.

Pericarditis, or inflammation of the pericardium, is a very serious complaint. It arises in the course of acute rheumatism and Bright's disease, or from exposure to cold and damp, or, in rarer cases, it may be due to injury.

Symptoms.—Great pain and tenderness over the heart, increased by pressure, so great that the patient is unable to lie upon his left side. The heart acts more frequently. Palpitation is common. There is great depression, and the countenance expresses alarm. The neighboring pleura also often becomes inflamed, so that some symptoms of pleurisy—cough, acute pain at each inspiration, etc.—are present. Fluid, often in large quantity, collects in the pericardium around the heart, and may cause visible bulging over the cardiac area.

Treatment.—Rest and quiet. Warm moist applications to the chest. For the pain, give passiflora in large doses with glycerite of wintergreen. The diet should be nourishing (with stimulants if necessary.) No other medicines are of use in the acute stages. Later on tonics are needful. When a large amount of fluid is present, it may be necessary to tap the pericardium.

Endocarditis (*Micrococcus*).—In all forms of inflammation of the internal lining membrane of the heart, whether the original cause be gout, rheumatism or some grave depressing passion, there is usually a disease germ present, which possesses great powers of reproduction.

The presence of this germ in all cases of endocarditis is recognized by the following landmarks: irregular action of heart, great difficulty of breathing, palpitation, irregular pulse, pain and uneasiness about the heart.

After death the streptococci are found upon the thickened valves of the heart—they are seen in the form of small chains, linked irregularly together; later on they assume the form of zooglea, and are found congregated together, and form plugs

in the muscular substance of the heart. In the detritus of the ulceration which follows they are found in chains.

When the sympathetic system is greatly shattered this germ assumes great microbial growth, engorging the entire muscular structure, causing abscess and other grave changes.

The micrococcus is most difficult to sterilize or annihilate; spartein, passiflora, adonidin, strophanthus cause the germ to wither and die.

Endocarditis, or inflammation of the internal lining membrane of the heart, is most often a complication of acute rheumatism and Bright's disease.

Symptoms.—Palpitation, rapid pulse, some fever, and difficulty in breathing. The valves of the heart are often attacked and the normal sounds of the heart are altered.

Treatment.—Warm applications or even counter-irritants; rest; quiet; sedatives, passiflora.

ATROPHY OF THE HEART.—A condition in which there is a decrease, a diminution in the weight and size of the whole organ, easily recognized by vertigo, increasing debility, very feeble action; sounds almost inaudible; area of dullness much less than normal; pulse almost imperceptible; slowed respiration; lowered heat; syncope; heart failure.

The principal nerve supply being from the great sympathetic and pneumogastric, the influence of toxins, great mental depression, shocks and concussions should be well guarded against. In either atrophy or hypertrophy of the heart-muscle, if not cured, the sequel is fatty degeneration.

Before and during the efforts at cure, all cardiac depressants, such as tea, tobacco, beer, sexual congress, worry, fret, must be strictly forbidden, and the aim of all treatment should be increased nutrition, rest and thrice daily massage, which dilates the blood-vessels, imparts tonicity to the organ—rich diet; light, easily digested; so that it be readily assimilated.

To stimulate the nutrition of the heart, locally keep a guaiacol plaster over the region of the heart twelve hours out of the twenty-four; internally, either nitroglycerin alternated with creatinin, the muscle alkaloid or kephalin granules.

To increase muscular growth, thyroid extract of the lamb, protonuclein and c. p. solution of spermin are of undoubted excellency; but the dose must be small and guarded with an experienced hand.

Occasional doses of dioxide of hydrogen and pellets of cactus grandiflorus must not be overlooked. If a toxin or pto-

main be suspected, as lead, mercury, syphilis, auto-intoxication. the action of iodide potass is most salutary.

Arsenic, Fowler's solution, cacodylate of sodium, small doses, bracing to the muscle-fibres; spartein also good.

HYPERTROPHY OF THE HEART.—A most common condition, due to overestimation, excessive nutrition; organic disease of the kidneys, and its entire substance is greatly increased in bulk and weight over the normal standard. Easily recognized by the frequent, audible and visible sounds; bulging of the precordial region; numbness of left arm; area of dullness increased; plethora, florid face; action of heart accelerated; vertigo, apoplexy; increased respirations and temperature—a permanent increase in the force and activity of the organ.

If the action of the heart be regular, fatty degeneration has not supervened, and a favorable prognosis may be entertained. To effect this abolish all cardiac depressants, as tobacco, tea, beer; avoid all excesses, especially sexual; all ebullitions of passion, or any kind of mental excitement or strain.

In inordinate growth, enlargement, a liberal diet and rest must be enjoined. As the nervous supply of the heart is largely from the sympathetic, passiflora should be administered with a liberal hand and combined with every remedy, on account of its purely sympathetic action. If digitalis is administered to contract, diminish the force and frequency of the heart-beats, give it with passiflora; if strophanthus is given to repress its irritability and ascites, combine it with that remedy.

The heart naturally increases in size with advancing years, but the increase is not considerable, and is not regarded as a disease. Hypertrophy is simple when the muscular walls are increased in thickness, and there is no other change in the organ. When at the same time there is no expansion or enlargement of one or more of the cavities, whose walls are hypertrophied, it is eccentric hypertrophy, or hypertrophy with dilatation. Some recognize a concentric hypertrophy, or an increase in the thickness of the cardiac substance and a diminution of the corresponding cavity or cavities. But the better opinion is that this diminution is not the result of disease, but announces that natural contraction, more or less complete, was the last act of cardiac life. The internal cause of hypertrophy is an increase in the number of muscular fibres in the cardiac walls, and not an increase in the size of the original fibres. Cardiac hypertrophy is analogous to the enlargement of the blacksmith's

arm or turner's leg: new demands made on its strength produce a multiplication of its muscular fibres.

The cause of this enlargement is generally some obstacle to the circulation, requiring increased strength of muscle to overcome it, as a diseased valve, or a tumor pressing upon a large artery, or a large organ so diseased that the circulation through it is seriously obstructed. It is produced by the mental emotions, which increase the force and frequency of heart-beats, as frequent anger and the anxieties that excite the heart (some depress its action), and, it may be added, by causes that have not yet been discovered. Its subjective manifestations are a strong impulse of the heart-beat, which, however, may be very strong and never be noticed by the affected person, and shortness of breath on exertion, and very little else. The physician discovers it by many signs, chief of which is the extension of dullness on percussion to the left of the line already given as the left boundary of the healthy heart. The heart, once enlarged, never returns again to its original size, and alone it rarely causes death. This usually is the result of secondary disorders (apoplexy or kidney disease), or it may wait for the intercurrence of other entirely distinct diseases.

Hypertrophy, increase in size, as well as in the multiplication and thickness of its muscular fibres, due to overestimation, must be carefully diagnosed from enlargement or expansion of its cavities, hypertrophy with dilatation.

The great danger of an enlarged heart, induced either by excessive exertion or beer drinking or such like causes, is degenerative changes in the kindeys with albuminuria.

The presence of uric acid in the blood and tissues gives rise to a group of disorders far-reaching and grave, for it invariably gives rise to atheromatous changes in the blood-vessels, contraction of the arteriole, and is a prime factor in the production of enlarged heart. The contraction of the arteriole varies with the amount of uric acid in the blood.

All beer drinkers have enlarged hearts. Discard digitalis and strophanthus, heart constrictors; success in all cases is certain with the following: Either five grains or five drops of a solution of nitrate of sodium three times daily, in alternation with a full half-teaspoonful of passiflora incarnata between each dose.

Cases in which the uric acid diathesis predominates greatly, a teaspoonful of the solvent thrice daily in which either the nitrate of sodium or passiflora can be given.

DILATATION OF THE HEART is an enlargement of its cavities. The left ventricle may be so dilated that its capacity is considerably greater than would be sufficient to contain the whole of a healthy heart. The dilatation may be in all of the four cavities or may be confined to one. The ventricles are far more liable to dilatation than the auricles, and the left much more than the right. Dilatation and hypertrophy very commonly go together, so that eccentric hypertrophy, or hypertrophy with dilatation, already explained, associated with and caused by morbid changes in the shape and function of the valves, is the most common form of heart disease.

The condition of the heart may be regarded as alternately active and passive—active in systole, passive in diastole. If in the passive state, while the blood is flowing naturally into a heart cavity, there is at the same time a reflux of blood into the same cavity in consequence of a defective valve, dilatation of that cavity will be sure to occur. The extended wall of such a cavity may not be thicker than it is in health, yet as it bounds a greater space it will require more material, and is hypertrophied by multiplication of the muscular fibres. In this state the heart has been known to weigh sixty ounces, or six times its natural weight. They are almost always found in persons who have had rheumatism and heart disease in childhood, and have grown to manhood with a damaged heart. It is noticeable that children bear these cardiac affections better than adults. The body, as it grows, seems to accept and tolerate an amount of such disease that would overwhelm a grown-up person. When it begins thus early it is usually carried to manhood, and often to advanced manhood. It is the repetition of the attack which is fatal in childhood.

Dilatation with hypertrophy is, after it reaches a certain stage of progress, attended by shortness of breath on exertion, sometimes palpitations, irregular heart-beating, and consequently irregular pulse. Its chief danger is, however, an induced or secondary Bright's disease, with dropsical swellings of the legs and body, without which the common forms of heart disease are not generally fatal. There is a form of dilatation of the heart in which there is not only no hypertrophy, but in which the walls of one or all the cavities gradually grow thinner and thinner by fatty degeneration and by absorption of the muscular tissue, till this tissue is almost wholly removed, and the walls are stretched and expanded in the effort to expel the blood from their cavities.

VALVULAR HEART DISEASE.—The cardiac valves may be attacked by inflammation and become thickened or ulcerated. The valvular opening may become narrowed, and the valve work imperfectly. As a result, the following symptoms may be present: Headache, digestive disturbances, congestion of liver, congestion of the kidneys, piles, fainting fits, apoplexy and dropsy. There is also oppression of breathing, either pallor or lividity of the face, and depression of spirits. On auscultation the heart's sounds are found to be altered in character, and these changed sounds or murmurs enable the physician to determine the valve affected. As a result of valvular disease extra work is thrown upon the heart, and it therefore enlarges or hypertrophies. When the extra work is too great the cavities of the heart often dilate and their walls get thinner. Hence dilatation of the heart, which is characterized by a failing and feeble circulation and great exhaustion.

HEART FAILURE.—The male and female sexual systems, the entire reproductive and urinary apparatus of both sexes, derive their principal nerve supply from the general reservoir of the great sympathetic, on which depends the performance of all vital functions.

The heart, stomach, intestines, also larynx and lungs, in all civilized men, derive an abundant nerve supply from the same source.

Drain off this nerve supply by grief, worry, care. Exhaust this nerve supply by sexual excesses, masturbation, with its sequel spermatorrhea, and there is at once a want of nutrition from the sympathetic and a failure on the part of vital organs, especially the heart.

The weakness of the heart-muscle is visible in the unsteady gait, in the bloodless brain, in the vertigo; the cold, clammy hands and feet; the cold, moist skin; in the weakness of all the tissues; in the greater frequency of varicocele in all masturbators and libertines.

Heart failure is becoming exceedingly common among both young and middle-aged men, and should in all cases receive prompt attention by checking off all seminal losses, which are productive of cardiac disease.

In the adaptation of remedies for the cure of heart failure, nervous insufficiency, we must bear in mind that the special nerve force which presides over the circulation of the blood is furnished by the vasomotor system. This part of our nervous organism is formed by the intermingling of fibres from

both the cerebrospinal and sympathetic system, so that the heart and circulation of the blood is subject to this influence.

Every possible cause must be removed, and every effort made to brace up the cardiac nerves, physical and mental rest or repose enjoined; no care, no worry; nutrition increased; sexual congress, tea, tobacco, alcoholic drinks rigidly forbidden.

Local stimulation over the region of the heart and cervical portion of the spinal cord persistently maintained.

We will briefly enumerate a few of the newer remedies which clinical experience has demonstrated to be of utility in heart failure, and which have a remarkable action for good upon a weakened heart.

The thyroid extract is of undoubted efficacy in heart failure. This secretion lies at the very origin of organic life, the vital element of all the tissues of the body. The more thyroid extract that is carefully and cautiously administered and assimilated the greater the activity of life. It is this secretion which stimulates the heart, rouses up the pink marrow, to elaborate more red blood. Great care must be exercised in its exhibition, small doses frequently repeated.

A human heart, abundantly covered with a well-developed sympathetic nerve, subjected to chemical analysis, contains a very large amount of alkaloidal substance termed creatinin. In the heart of a sexually-exhausted man there is found little if any of this vitalizing body. Unassailable chemical evidence shows this. Besides, there is an atrophied condition of the sympathetic. In other words, he is soulless. Nerve and cardiac nutrition are demanded. The thyroid extract stimulates the evolution of the organic cell. The heart-muscle owes its intrinsic activity, its perfect growth to creatinin; its nerve supply to kephalin.

The paucity of creatinin in all animal hearts has been well attested. The white meat of the quail and pheasant contains an immense supply of this substance, and should be freely eaten by every one suffering from heart failure, as it strengthens the heart in a remarkable degree.

Kephalin should not be overlooked. Its exhibition reaches the immense ramifications of the great sympathetic in the chest and abdomen, and will always be found a good remedy in cardiac neurasthenia.

Ferratin, animalized iron extracted from calves' liver, is one of the very best of remedies for building up the hemoglobin of the blood. It is of great value in cardiac failure, as it is assimi-

lated speedily, acts promptly. It is our best preparation in weak heart, and never fails to afford admirable results.

Digitalis, belladonna, cactus grand., and all acro-narcotics have no place in heart failure.

Heart failure directly or indirectly traceable to sexual exhaustion is greatly benefited by the occasional administration of the green root tincture of gelsemium, either alone or combined with strophanthus. The best results are obtained when the heart is really feeble and the circulation languid. The combination is excellent. One-quarter of a drop of strophanthus to three or five drops of the gelsemium every two or three hours. In this form it is remarkably soothing to the nerve centres, strengthening to the heart, and completely relieves the insomnia incidental to cardiac failure. The addition of passiflora increases its restorative action.

The nitrites are invaluable—nitroglycerin and nitrite of sodium. The former in the form of a suppository, as the sympathetic nerve can be best, most effectually reached through the rectum; the latter in solution.

One of the most widely prevailing maladies of the age and of our country is a weak heart, a product of neurasthenia. The condition of the heart is the index of the physical and mental status. The heart acts as a starting point of the circulation. If its action is strong, vigorous, the life-giving fluid flows freely through every tissue, vitalizing them. If the heart is feeble, all vital functions are slowed—the stomach does not receive enough of blood from which to elaborate gastric juice, so there is indigestion; the bowels, skin, kidneys are sluggish, and there is deficient elimination; the brain suffers anemia, as is visible in the rapid exhaustion of the mental powers; there is an impairment of all the senses and imperfect nutrition of every structure; the feeble impulse gives us a slowed circulation, with cold hands and feet; a pale or livid surface with cyanotic mucous membrane.

To treat anemia, due to cardiac debility, with ordinary tonics invariably proves ineffectual. The blood may be normal, but if imperfectly distributed there will be friction. The natural method of increasing the heart's vigor is exercise, which the patient is unable to take, so this must be supplied or supplanted by the highest vitalized massage procurable, administered morning and night for at least one hour each application. Friction and electricity are poor adjuvants compared to massage.

Our great reliance, however, is placed in drugs to repair the

structural weakness. We want a remedy, an energetic cardiac tonic, one that will improve digestion and supply the needed energy to the heart.

This we have in the comp. matricaria, an incomparable tonic; and as an element of nutrition of the most vitalizing and strengthening character, creatinin, the alkaloid of heart-muscle.

No disease is so rapidly on the increase as failure of the cardiac muscle. This may be due to a variety of causes, the wear and tear of the brain incidental to our present state of civilization to wasting of the heart-muscle, but much more generally it can be traced to fatty deposits, the result of degenerative changes in the fibres of the muscle itself—a state in which its fibres waste, become pale, inelastic, and whose structure is replaced by fatty nodules. Besides these degenerative changes, the heart itself may become loaded with fat without its fibres being implicated. Both of these conditions can be detected by the intermittent character of the pulse. It is true that intermittency of the pulse is a more common symptom than it formerly was, and the explanation is to be found in the increased emotional strain and excitement incident to our present mode of living, the affection being due to "nervous exhaustion of the vital nervous system." When not present in an exaggerated degree, intermittency of the pulse is often less dangerous than it seems. It does not, as might be feared, carry with it the necessary idea of sudden dissolution from heart disease, for the heart is the regulator, not the prime mover, of the circulation. The harmlessness of the symptom in its moderate development is shown by the fact of its common occurrence after middle age, and by the long duration of life in many of those who present it. At the same time, the symptom has its significance. Occurring in infancy, it is an important indication of serious nervous derangement. Occurring in young adults, it has the same meaning, and tells the story of commencing failure of power. Occurring suddenly after any great event which has told upon the mind, it may be a sign of very serious import. By far the greater number of persons whose pulse exhibits intermittency are unaware of the fact that only in cases where the intermittent period extends over as many as five normal heart-beats and is irregular as to time and not prolonged, no real organic change has taken place. But when it occurs with precision, regularity and is prolonged, with difficult breathing, neuralgic pains, vertigo, no doubt can exist.

Heart failure due to degenerative changes has been, in the

minds of all scientific physicians, deemed incurable,—no aid from any source, either from diet or drugs, or any line of treatment, being of any avail. But within these twelve months past these ideas have been changed. We have found in the ozonized juice of the phytolacca berries a remedy, which when administered will strip the cardiac muscle of fat and replace even adipose tissue by fleshy fibre.

The remedy is simply the expressed succus or juice of the berries, combined with a definite proportion of negative ozone.

Two articles should be avoided by all sufferers from alcoholic failure of the heart. These are tea and tobacco. The number of relapses which we have seen brought about by them are so many we almost despair of success so long as they are used. They both depress the circulation, and make the craving for alcohol extremely severe. Coffee is less objectionable, but it may produce flatulency and indigestion. Cocoa is, as a rule, very suitable, but milk and water, with, as a change, a little fresh lemonade, or a mixture of water and fruit lime juice, meet the question of drinks best. Very soon the abstainer from alcohol drinks less fluid of every kind. From fifty to eighty ounces a day under alcohol, he comes down to thirty or forty, is satisfied with soft water pure and simple, and is lighter and better for the change.

It is absolutely necessary, in order to ensure a good recovery from alcoholic asthenia of the heart, for the sufferer to get plenty of sleep at night. Early to bed is the last prescription, and in some senses the best. To bed by nine at night and rest of heart in recumbency to seven the next morning is the best rule. Let it supplement other hygienic rules, and of the many who suffer from failure of the heart from alcoholic drinks, there are none that will not be benefited and few that will not be cured —assuming always that degeneration has not produced fatal changes of vital organic structures.

WEAK HEART.—All hearts are not equally strong, some are inherently weak, and an important question is how much can it stand without getting out of gear. Whether then there be such a thing as functional disease of the heart it is doubtful; there may be reflex disturbance, and even that does not long exist without organic lesion. There is a limitation to the capacity for work in every heart; it is well to know its extent and degree. Malnutrition, anemia in the physically and mentally overworked are prone to give rise to cardiac weakness, which terminates in dilatation. The toxins of all disease germs tell

disastrously upon the heart when the great sympathetic is highly developed, as is visible in pneumonia and rheumatism. Tobacco and alcohol, violent muscular exertion, care, anxiety, worry, are the most productive of the malady.

The most satisfactory remedy to prescribe in all cases of enfeebled heart is creatinin, the alkaloid of the heart-muscle, but chiefly isolated from the white meat of the quail. This remedy completely usurps arsenic, its effects are better, more permanent. Strophanthus is an excellent cardiac sedative, but if the arteries are contracted, elongated, its action must be guarded. Nitroglycerin is the best vascular dilator and stimulant. Strychnin and matricaria the best heart tonic as well as stimulant; digitalis if dilatation has taken place. Local stimulation, with guaiacol plaster, invariably of great efficacy. Heart weakness means heart failure. No such thing as functional disease. An all-round remedy, a true cardiac vitalizer, administered in every case from its inception to its close, is passiflora incarnata. Protonuclein is only of advantage in atrophy. The only remedies to avoid are the coal-tar derivatives, which are cardiac depressors and paralyzers.

FATTY DEGENERATION OF THE HEART.—In this disease the muscular fibres of the heart have degenerated and become replaced more or less by fatty material. It is a result of malnutrition of the heart itself.

Causes.—Senile decay, long-standing anemia, or other chronic disease, other forms of cardiac disease, gout, alcoholism, phosphorus poisoning, etc. Sedentary occupations and habits predispose to this disease.

Symptoms.—This disease is by far the hardest of all heart diseases to diagnose. No symptoms are pathognomonic, but there are usually present the following: Pallor, debility, coldness of extremities, feeble and irregular pulse, perspiration, faintness, giddiness and dyspnea.

A great number of sudden deaths are due to this disease.

Treatment.— A quiet, regular, uneventful life; gentle exercise; a light, nutritious and stimulating diet, with tonics, particularly nux vomica.

In heart diseases digitalis and strophanthus in small doses very useful.

General obesity, due to excess of eating and drinking, is usually associated with gout, in which the adipose tissue is deposited on the heart-muscle, whereas when due to other chronic poisoning, or to the toxins of typhoid of puerperal fever, fatty degeneration of the muscle is the rule.

Usually exists either as a degeneration of its muscular structure and its usurpation by adipose tissue, or an excess of adipose tissue on its surface, embarrassing its contractions, or complicated with atheroma of the coronary arteries.

The efficacy of the ozonized succus or juice of the ripe phytolacca berry, slightly touched by frost to temper its asperity, is attested by all careful observers, in doses of from two to fifteen drops, in all cases of fatty heart; a safe, reliable remedy for the removal of fat. Bowels and kidneys must be kept active, the former with kola-nut paste, the latter with sulphate spartein: sulphate of spartein ten grains, water two ounces, mix. Three- or four-drop doses at stated intervals.

Caffein and creatinin are two of the best heart strengtheners; brace it up; promote its nutrition. They in all cases should be administered in alternation with phytolacca berry juice.

There must be an avoidance of all amylaceous and saccharine substances in diet; alcohol, wines, beer, tea, tobacco are forbidden.

If any other remedies are indicated, try comp. matricaria, a heart tonic of inestimable value, one that acts upon respiration, digestion and assimilation.

In all forms, danger of sudden death. In cases of simple fatty degeneration of the heart, fatal syncope is extremely liable to occur from excitement, forcible movement, shocks, cold bath or very slight injuries. Even cerebral anemia, occasioned by a sudden change from the horizontal to the upright position, may be the cause of rupture.

In all cardiac maladies there is an impending danger, and the treatment of such cases requires tact and skill.

INEFFICIENCY OF THE HEART IN THE YOUNG.—A condition which is becoming very prevalent in the weak, the young, the present demands of school life, excessive exercise, climbing stairs are productive of it; the rapid growth of children in our climate, a condition in which either the heart-muscle does not keep pace with or participate in.

An excessively common condition as the result of overwork, boat-rowing, base-ball, cyclism or any violent exercise.

The result of an acute strain may be recovered from under rest; but it is its frequent repetition that must be dreaded which gives permanency, with either dilatation or hypertrophy, with indescribable heart pangs.

Associated with inefficiency there are usually a series of constitutional symptoms which crop up, such as loss of appetite for

food, a loss of energy, palpitation, headache, difficulty of breathing on slightest exertion.

Rest, the administration of creatinin in one-, two,- even three-grain doses every three hours operates well in bringing about cardiac efficiency, slowing the pulse, increasing the power of the heart-muscles by promoting its growth. The best medical authority in America says that creatinin is the best of all cardiac vitalizers.

GENERAL OBSERVATIONS ON CARDIAC TROUBLE.—Heart diseases may be broadly classified as acute and chronic. Acute heart disease is usually inflammatory; sometimes it consists in sudden degeneration of the heart-muscle, as in diphtheria and other infectious diseases. A severe strain or a terrible shock may also develop a sudden dilatation or paralysis of the heart.

When the heart or its enveloping sac is in a state of inflammation, with hyperactivity and increased friction, the primary indications are rest and sedation.

The patient is kept flat on his back in bed. Mustard over the region of the heart, followed by sedative poultices of crushed linseed, saturated with an opiate, is an invaluable measure. These poultices must be warm, but not hot. The patient should be clothed in flannel, and guarded from contact with cold bed-clothing.

Aconite is the best drug for this condition. It controls pain. irritability and slows the action of the heart. It must be given for its effect upon the pulse. In all cases of heart disease characterized by rapid, wiry pulse and cardiac pain, aconite, with or without ipecac, alternated with matricaria, will be of benefit.

Where the pulse is full, rapid and throbbing, Norwood's tincture of veratrum viride is preferable to aconite.

In the muscular degeneration of the heart present in infectious diseases, the indications are different. The patient is very pale, the pulse fast but small and irregular, and we don't want to give digitalis. Digitalis cannot tone a heart softened by ante-mortem decay. Heart-muscle must be reasonably firm to respond to the action of digitalis. Strychnin is the drug for a poison-rotted heart, and give it with a free hand in conjunction with antiseptics.

In treating cardiac disease it is important to know when to change from sedative to stimulant medication. A feeble cardiac impulse and cold feet call for stimulation. Hot bottles to feet and legs, a hot-water bag over heart are simple measures which have often saved life.

Adhesions frequently form as a result of inflammatory disease of the heart, restraining its action and causing pain, trouble in breathing, valvular failure, dropsy, etc. Snug strapping of the left chest will partially relieve these annoying symptoms. Medicinally, give belladonna in alternation with aromatic spirits of ammonia.

Chronic disease of the heart is, however, much more common and more insidious in its beginnings. Sedentary life, overfeeding and intense mental application, dissipation and excesses of all kinds are the factors which contribute to make heart disease a fountain of many ills.

There are the multitude of business men, who have always been healthy and energetic, but suddenly find themselves short of breath. Digestion is slow, constipation develops. They do not sleep well. Attention is dulled and memory impaired. Other symptoms of passive brain congestion and insufficient oxidation show themselves. The heart-muscle is undergoing degenerative changes of a fibrous or fatty nature.

If the patient is obese, of a lemon-yellow color, with sluggish skin reflexes, the portal system needs invigoration.

Give him a mixture of the ozonized extract of chionanthus and matricaria.

In defective cutaneous circulation the daily use of the flesh-brush morning and night tones the nerves, increases the area of circulation, lessens the heart's work. In fatty degeneration of the heart there is a flabbiness of muscles throughout the body, a low-tension pulse; a tendency to sweats, with fits or paroxysms of palpitation, followed by prostration; here matricaria and stimulants are valuable. In chronic heart disease, where dilatation and obstruction are just beginning, with dropsy, water-logged lungs, give periodate aurum and apocynum.

The heart being a muscle, needs fresh-air, oxygen, which is its very life; outdoor life, free ventilation, massage, baths, electricity are all valuable in their sphere.

HEARTBURN.—*Symptoms.*—Cardialgia, or heartburn, presents itself in two forms, each of which assumes various grades of severity. It is generally attended by acid or acrid eructations, exciting irritation in the throat and fauces. The acidity of the eructated matters is often remarkable, occasioning the most unpleasant sensations in the mouth and pharynx, with a copious flow of fluid from those parts. The matters brought

up from the stomach are sometimes rancid and alkaline, particularly after a full meal of rich or fat animal food. In this case a feeling of disgust is excited on each eructation, and large quantities are thus thrown off or regurgitated from the stomach without either nausea or retching. In either form unpleasant gnawing, burning pain and tenderness are felt at the epigastrium, with distention extending to the hypochondria, and with tightness or oppression in the chest. Cardialgia chiefly occurs during the period of digestion, but sometimes not until an advanced stage of the process. It may be mild, and consist simply of uneasy sensation, gnawing or burning at the cardia, sometimes with slight faintness or flatulence; or it may be severe, the uneasiness extending over the region of the stomach, attended by depression, anxiety of countenance, and faintness. This latter state has been denominated "sinking heartburn." It is only when cardialgia is severe that it is accompanied with frequent and copious rancid, alkaline, or septic annotations.

Treatment.—Heartburn is best treated by medicines which act upon the secretions and move the bowels. Kolatina tablet to regulate the bowels and comp. tincture matricaria are most useful when this symptom is connected with acidity. But when heartburn is attended by rancid, septic or insipid eructations, the mineral acids, as the nitric, the hydrochloric, and the aromatic sulphuric acids, given in simple camphor, or aromatic water, or in suitable tonic infusions, will be most serviceable. When there is a liability to heartburn, wine, spirits, and particularly malt liquors, should be avoided. Hock or old sherry may, however, be taken in great moderation in seltzer water.

HECTIC FEVER.—Fever of a remittent or intermittent type, such as is met with in cases of phthisis and in connection with persistent purulent discharges. It comes on insidiously, and lasts a long time.

Symptoms.—Wasting, a characteristic flushing of the cheek, profuse perspirations, and irregular action of the bowels.

Treatment.—Depends upon the cause of the fever—grave debility, the toxin of the bacillus tubercle and typhoid. Mistura guaiacol is the best antidote, or, better still, guaiacol suppositories. If symptoms of septicemia prevail, push large doses of echinacea with peroxide of hydrogen.

HEMATOGEN.—Contains perfectly pure hemoglobin, all the salts that are found in fresh blood, together with its albu-

minous constituents, in a highly concentrated and purified form, preserved by adding to each pint four ounces of glycerin, two ounces of white wine and an ounce of negative ozone; a most efficacious remedy in general debility, anemia, chlorosis, neurasthenia, rickets, scrofula, weak heart, wasting diseases of children, chronic catarrh of the stomach and bowels, loss of appetite, convalescence after influenza, and fevers (including typhoid fever, etc.) and overrapid growth in young persons.

HEMORRHAGE.—Loss of blood, or the escape of blood from the blood-vessels in which it is naturally contained, constitutes a hemorrhage.

It is classified in different ways; as, for example, it is called: *Traumatic,* when due to a wound, or injury, or incision; usually escaping in jets, corresponding to the contractions of heart; *symptomatic* of disease, as the bleeding from the nose in typhoid, and from other parts in tubercle, cancer, etc. Sometimes the term *idiopathic* is appplied to it; then it is said to be a diathesis. It may be *active* or *passive*. *Active* hemorrhage is present in injuries, inflammations; *passive,* when it depends on poverty or depreciation of the blood. They may be periodical, as in cases of vicarious menstruation.

The seat of hemorrhage will depend upon the location of partial death or weakness.

The general principle of treatment of all hemorrhages are: the circulation kept below 70; recumbent posture; freedom from excitement; simple, nourishing, but unstimulating diet; elevated position; and the application of stimulants, as heat, etc. Our best styptics are digitalis; mineral acids, as cinchona and nitromuriatic acid; quinine and aromatic sulphuric acid; turpentine, sulphuric acid; gallic acid. As soon as it is arrested, a diet rich in fibrin, as broiled beefsteak, eggs, cream, etc., mineral acids, cinchona.

UTERINE HEMORRHAGE.—This means hemorrhage from the uterus at any other than the menstrual periods. This may arise from various states; it may be a symptom of inflammation and congestion; of endometritis, of ovarian disease; of polypus in the uterus, or other tumors, or cancerous infiltration.

It is often the precursor of miscarriage or labor. Occurring during pregnancy, it is suggestive of a partial detachment of the placenta, or of what is called placenta prævia, that is located over the mouth of uterus.

After labor it may be due to inertia of the uterus, the organ being tired out; to the presence of shreds of membranes, pieces of placenta, or clots.

Intra-uterine coagula, both in the menstrual and puerperal state, are common causes. Puerperal coagula differ from menstrual coagula essentially in the time of their occurrence. Menstrual coagula may occur at any time during the child-bearing period of life, remote from childbirth or abortion. Puerperal coagula occur only in the period called that of the puerperal state, which is limited to abortion, or childbirth, which is covered by a period of one month or six weeks after delivery. The retention of a coagulum, or portion of the placenta, is a common cause of hemorrhage, and there is a constant risk of bleeding so long as a particle remains; laceration of the genital tract; relaxation or inertia is the common cause. Fibrinous polypi are very productive of it.

Treatment.—In cases of pure relaxation and dilation of the uterus, sulphate of quinine in mineral acids, in alternation with tincture of black snake-root; and if these fail, wine of ergot should be cautiously administered; the washing out of the vagina, if there is fetor, with tepid water, peroxide of hydrogen; and if all fail, insert the sponge plug saturated with a solution of alumina. The use of hot water, 117 degrees to 120 degrees F., for syringing the vagina has a much better action than cold in causing a renewal of life and a regaining of lost contractility.

More recently, wine of aletris farinosa internally and peroxide of hydrogen locally. The latter possesses immense hemostatic effects; used either as an injection into the uterus, as a tampon, or douche, it is most effectual, better than ergot or iron.

HEMORRHAGIC DIATHESIS.—Individuals possessing a sanguine temperament have a lack of cohesion in the fibrin and red corpuscles of the blood; associated with this the micrococcus hemophilia appears in the blood, a cocus characteristic of hemorrhage, bleeding from the nose, bleeding on the slightest scratch or injury. It may occur from special locations, as from the nose, constituting epistaxis; from the lungs, hemoptysis; from the stomach, hematemesis; from the kidneys, hematuria; from the uterus, metrorrhagia.

This diathesis can be overcome, the micrococcus destroyed by mineral acids and cinchona, ozone water, coca, digitalis, avena, kephalin and a diet rich in blood elements.

HEMATEMESIS.—The vomiting of blood from the stomach. This may be a result of external injury; acute congestion of the stomach due to inflammation or suppression of the menses; mechanical congestion due to cirrhosis of the liver, obstructing the portal vein, or chronic heart or lung disease; ulceration of the stomach (either simple or cancerous); diseases of the blood, such as yellow fever and scurvy; and, rarest of all, the bursting of an aneurism into the stomach.

Symptoms.—Loss of appetite, indigestion, pain, and nausea may precede the appearance of hematemesis. When the bleeding is profuse, there is a feeling of faintness and sinking in the region of the stomach, a small pulse, pallor of countenance, and nausea followed by the ejection of partially clotted dark blood. For a day or two afterwards the stools are dark and tarry looking. In slight hemorrhages the vomited matter resembles coffee-grounds. After an attack the patient may be completely prostrated, but a single attack rarely terminates fatally.

Treatment.—Depends upon the cause, but in all cases complete rest in bed, ice (either sucked or in the form of cold drinks), and abstention from food are necessary. Nutrition should be carried on by means of nutrient enemeta of beef-tea, etc. The drugs used to check the hemorrhage are gelsemium, gallic acid, oil of turpentine (in small doses), and resorcin, five grains to ounce of ice water.

HEMOPTYSIS.—The spitting of blood due to hemorrhage within the lung. The blood is usually bright red and frothy. This symptom in most cases points to phthisis, often being one of the first symptoms. It may be due to heart disease, cancer of the lung, aneurism, injury of the chest, etc.

Treatment.—Rest in bed. Ice may be sucked. Hot foot-baths and a purgative are useful, particularly in full-blooded people. The drugs given are gallic acid, ergot, dilute sulphuric acid and turpentine, passiflora, digitalis and strphanthus.

HEMATURIA.—(*Bloody Urine*).—It may be from the kidneys, bladder or urethra. Try infusion of digitalis; gallic acid; turpentine, uva ursi; cleavers, Warburg's tincture, strophanthus.

General Measures.—Vapor bath, absolute rest, drink linseed tea; copious injections of warm water into the bladder. If bladder is filled with thick blood that cannot be passed or drawn through a catheter, inject into the bladder two ounces of warm

water, five drops of hydrochloric acid and thirty grains of pepsin, and in a few hours the contents of the bladder will pass through; or papoid or trypsin as injection.

The hematuria due to the presence of the malaria germ, with its toxin literally stuffed or imbedded in th tubules of the kidneys, is best cured by gelsemin orally; with a suppository of quinine or kurchicin.

Sulphate of quinine in suppository from 10 to 20 grains gives excellent result—for it produces neither nausea, headache, nor any cerebral disturbance, and it is undoubtedly the best method of exhibition in all cases of hematuria, or where the remedy is indicated.

HEMATOPHILIA.—A diathesis in which there is a tendency to bleed from nose and other parts. It is an hereditary condition, supposed to be chiefly transmitted by the mother. Boys affected with it rarely live. It usually manifests itself in early life, at dentition or puberty; in females at first appearance of the menses and their cessation. All cuts, scratches bleed profusely; some races are more liable to it than others; due to a defect in fibrin of blood. Nutritious diet, abundance of fresh air, use of digitalis with care, with mineral acids and preparations of cinchona are supposed to overcome it, but it is very doubtful. It is identical with what is termed the hemorrhagic diathesis.

HEMATOCELE, PELVIC.—An effusion of blood into peritoneal pouch, between uterus and rectum; or, into subperitoneal tissue, behind and around the uterus.

Causes.—Abortions, lingering labor, violence of some kind; ovarian pregnancy, blows, kicks, falls.

Symptoms.—These are very variable. If the loss is excessive, there is the great nervous shock and exhaustion from profuse hemorrhage. Usually acute pain in the lower part of abdomen, shivering, coldness or extremities; vomiting; increasing feebleness of circulation; ghastly appearance of face, and death in a short time.

If the loss of blood is not excessive there is nausea, rigors and a fever, with violent abdominal pain; countenance very anxious, white and pinched. A frequent desire to empty bladder, but inability to do so; irritability of rectum; in some cases the pelvic tumor may be felt through the vaginal walls.

Treatment must be upon general principles.

HEMORRHOIDS, OR PILES.—A varicose condition of the veins of the rectum. As a result of passive congestion of

these parts (due to obstruction of the flow of blood in the veins) the veins become varicose, and project as little tumors. Sometimes there is bleeding, particularly when the patient is at stool. They are classified as external or internal piles, according to their position just outside the bowel or within it. When they bleed they are said to be open; when there is no bleeding they are said to be blind. The tumors vary in size from that of a pea to that of a small bunch of grapes. There is often considerable pain, so much so that in some cases the patient is unable to walk. In some cases the hemorrhage is so free as to be a cause of danger from the constant drain on the patient's constitution. They also predispose to the formation of ulcers, fissures, abscesses, and fistulæ in their neighborhood.

Causes.—Any condition which impedes the circulation in the veins of the part. Thus constipation, pregnancy, and liver disease are common causes. Sedentary occupations predispose to this disease.

Treatment.—Regular habits and exercise. Avoidance of alcohol. Otherwise strengthen up the entire system, but especially the veins, by general tonics and alteratives; the bowels should be regulated by either the cascara sagrada lozenge or tincture of nux vomica and belladonna, or sulphur. Bowel should be injected daily with either distillation of witch-hazel or horse-chestnut, or water acidulated with aromatic sulphuric acid; the suppositories of the horse-chestnut of great value; same form of medication, with care, has proved of greater efficacy.

All remedies failing, the hemorrhoid tumors should be injected. An excellent formula for injecting and subsequently causing the obliteration of hemorrhoids is the following: Two drams each of carbolic acid, glycerin and fluid extract ergot, added to one dram and a half of water. Mix. Inject from three to eight drops, according to the size of tumor. Or the following: Carbolic acid, olive oil, glycerin, of each, one ounce; pure crosote, twenty drops; muriate of cocain, five grains. Mix. Inject from two to six drops.

Coagulation, absorption and obliteration of piles can be effected without the use of carbolic acid, thus: Fluid extract arbor vitæ, six drams; fluid extract hamamelis, one dram; fluid extract horse-chestnut, three drams. Mix. Change syringe with this; insert nozzle to centre of the hemorrhoid; inject from six to ten drops. If it does not entirely disappear this can be repeated in two weeks.

Piles can often be got rid of with horse-chestnut suppositories or an ointment made from the horse-chestnut, and also in the following manner: After the morning stool, throw a copious injection of warm water into the rectum; then insert a piece of the following, about the size of a hazel-nut, into the bowel, smearing all the internal and protruded parts with the same: Take one ounce of ozone ointment, the same quantity of butter of coca, then add two drams of subnitrate of bismuth, one dram of muriate of hydrastin; and when all are melted together, add three grains of cocain, thirty drops of oil of eucalyptus; use when cool. Inculcate rest, as little exercise as possible.

Inject into the rectum, afternoon and evening, one teaspoonful of the following mixture: Fluid extract of hamamelis and of hydrastis, three drams of each; olive oil, two ounces. Mix. Internally, we have found the following unsurpassed: Tincture of nux vomica and tincture of belladonna, of each half an ounce. Mix. Dose: two drops in a little water one hour before meals and on retiring to bed. Remove all apparent or suspected causes. Rigidly forbid the use of beer, whisky; fatty, starchy, saccharine food.

HEPATITIS, ACUTE AND CHRONIC.—This occurs in connection with ague and other fevers, injury, new growths, and, most often, from alcoholic abuse and gluttony, particularly when to these are added the effects of a hot climate; irregular habits, alcoholism. It may also be a result of constipation—the same as those of congested liver, but in a more intense degree, together with a rise of temperature and pain on pressure over the liver. An abscess may form in the liver. When this occurs there is a stage of fever, with fits of shivering, and later on uneven enlargement of the liver, with "fluctuation" and perhaps bulging of the abdominal wall. Abscess of the liver is also a complication of acute dysentery.

Symptoms.—Irritability, depression, headache, pain in the right shoulder and right side; the tongue is foul; there is a bitter taste in the mouth, impaired appetite, nausea and vomiting. Jaundice may be present. In long-standing cases there may be some ascites. The liver is uniformly enlarged.

The acute form is rare in temperate climates. Veratrum viride and gelsemium; phosphate of soda alternated with nitro-muriatic acid; kolatina alternated with ozone water; hot fomentations over the liver area to relieve pain, to promote vi-

tality; chloride of ammonia alternated with ozonized chionanthus.

In dropsy, apocynum; light, non-stimulating diet; no alcohol. If case is stubborn, periodate aurum and concentrated tincture kurchicin are very useful. Guaiacol plaster over liver.

HEPATISM.—By the term hepatism is understood a group of diseases existing together—gout, obesity, biliary lithiasis, gravel, diabetes—the relationship of which is proved by the fact that they exist coincidently, or follow each other, appearing in one individual, or being transmitted by him, one or the other, to his descendants. A common morbid principle, which we call a diathesis, lies at the bottom of this condition. The localization of this group of diseases of nutrition is in the liver. The characteristics of the diathesis are shown by regular periodical disturbances of the digestive apparatus, of which the liver is the preponderating organ, acting with the periodicity of the digestive functions, disturbances of sleep, and anomalies of excretion. The causes are disturbed function of the liver; primarily, in the individual or his ancestors, disease of the liver, intoxications or auto-intoxications, infections, psychical shock or traumatism. The diathetic treatment consists of purgatives, alkalies, sometimes diuretics, dietetic regimen of the diseases of the liver. The diagnosis is easy, made by a regular systematic palpitation of the liver in all nutritional diseases, by a minute analysis of the patient's subjective symptoms, and by a careful comparison of the subjective and objective symptoms of these diseases with diseases of the liver, at the same time indicating that the satisfactory treatment of these conditions is that of hepatic disease.

HEREDITARY DISEASE.—The problems of the hereditary transmission of qualities and tendencies to disease are some of the most wonderful in nature, and they are as yet by no means clearly elucidated. Many of them, as yet, cannot be brought under any law. In our present state of physiological knowledge it is, for instance, a quite inconceivable thing what takes place when we have two generations of perfectly healthy persons intervening between an insane great-grandmother and an insane great-grandchild. The grandparent and the parent carried something in their constitutions which was never appreciable to us at all. Yet it was there just as certainly as if it had broken out as a disease. It is one of the future problems of physiology and medicine to deduce the exact laws of heredity

in living beings, and to counteract the evil hereditary tendencies through conditions of life. To do the latter we shall undoubtedly have to begin early in life, and we shall have to control the education especially, and make it conformable to nature's indications, laws, and conditions.

HERNIA, OR RUPTURE.—This term is applied to any condition in which any internal organ of the body protrudes from its natural cavity. Thus we may have hernia of the brain, lung, testicle, etc., but in the majority of cases the term is applied to the protrusion of a part of the intestine through some part of the abdominal wall. The abdominal wall is made up principally of layers of muscle. At certain parts this muscle wall is thinner than elsewhere, and it therefore sometimes happens that when irregular pressure is exerted upon the abdominal contents they press upon the abdominal wall and protrude at the weaker parts. Hernia may occur at any part of the abdomen, but is most frequent at the weaker parts referred to above—namely, at the navel, groin, and upper part of the thigh. The part protruded may be the omentum or some part of the intestine, or both, and cases occur where other abdominal organs have been protruded. When omentum alone protrudes, the hernia is known as an epiplocele; when intestine protrudes, it is an enterocele; when both protrude, it is known as an entero-epiplocele. Other names are applied according to the position of the hernia. Thus we may have umbilical, inguinal and crural, or femoral, herniæ, according to their position at the navel (or umbilicus), groin, or upper part of the thigh respectively. Men are more liable to hernia than women, particularly to the inguinal form. The femoral form is more common in women. The tendency to hernia decreases with age.

A hernia is said to be reducible when it can be got back into the abdomen, irreducible when this cannot be done. When the hernia is so firmly fixed that the circulation in it is arrested, it is said to be strangulated; and unless the strangulation be relieved at once by operation or reduction under chloroform, a fatal result from gangrene will probably ensue.

The protrusion of either the intestine or omentum or both from their natural cavity, either through some of the natural openings or through some weak spot of the abdominal walls, constitutes usually a soft, compressible swelling, increasing in size when the patient stands up, dilating when he coughs, or makes exertion—when in the horizontal position, diminishes

or disappears, or when well-directed pressure is applied. An individual with hernia is at all times in great danger, even if he wears a pad or truss to keep it within its natural cavity.

There is always danger, and this very idea has led surgeons to resort to what they term a radical cure, namely, by injecting irritants into and around the neck of the sac or opening so as to excite adhesive inflammation, and effusion of plastic lymph to obliterate the opening, and form a solid barrier to prevent the descent of the bowel. Various agents are used, but tincture of cantharides has the lead as an injecting agent; others again to tucking the folds of the scrotum into the neck of the sac; others to scarification; and introduction of needles—all very risky procedures.

In the city of Mexico rupture in all its varied forms is extensively common; the surgeons there use an ointment of some merit. They have the external parts bathed morning and night, and have this ointment applied on a piece of lint, and over and above all either a compress, pad or truss. It takes a little time, from two to four weeks usually; the cutaneous surface becomes quite red, but is never permitted to ulcerate.

There is no danger in this procedure, no risk, and above all, it yields the largest amount of effusion of lymph—a quantity far in excess of what is necessary to block up the orifice through which the bowel escaped.

There can be very little doubt regarding its efficiency and its value; it simply requires a little time, some patience, which is far better than running risk of peritonitis and death.

The remedy is powerfully germicidal, and capable of exciting adhesive inflammation, with a profuse exudation of plastic lymph, and possesses the power of penetrating deeply.

If the physician and patients manipulate it properly and persevere with it, the Mexican ointment, so called, will cure all cases of reducible hernia.

In semi-tropical as well as tropical countries hernia is very common, especially so in the United States, the largest percentage being among men. Its importance is great, and a radical cure, if it can be obtained without risk, is an imperative necessity.

If a rupture is reducible, and can be maintained in its natural cavity by the aid of a pad or truss, it can very easily, and without either pain or inconvenience or suffering or risk, be got rid of by the twice-daily application of the Mexican ointment, placed underneath the pad or turss. No other medicinal agent

yet discovered can effect what this ointment will do. When applied, its power of penetration is great—as soon as placed in position it causes a most abundant effusion of plastic lymph to flow all around the hernial ring, which speedily becomes ozonized and blocks any descent of either bowel or omentum. The secret of success is to maintain for two or three weeks an erythema all around and over the aperture, just long enough for complete organization to take place. We have used the remedy in several cases with much success, and find it much better, more efficient, never attended with danger, than any of the methods in vogue of exciting lymph effusion.

HERNIA IN CHILDREN.—The inguinal is the sole form found in children. The diagnosis is always easy, as malposition of the testes or disease of the cord is rare in youth.

When it does exist, regular bathing, proper diet, the avoidance of all intestinal irritation leading to abdominal distention. Massage is useful after the twice-daily bath.

In all cases in children in which the hernia is reducible, and can be prevented either by a pad or truss from descending, the Mexican ointment should be applied, and kept applied, until sufficient lymph is effused in the internal ring to block forever the descent of the bowel.

If the hernia is strangulated, irrepressible, or where treatment is impossible owing to the incompetence of the mother, the Mexican ointment must not be used.

The use of this ointment, when the case admits of it, gives in all cases a large amount of lymph, which rapidly organizes, and forms an excellent plug in the hernial sac.

HERPES, OR TETTER.—An acute inflammatory disease of the skin, characterized by groups of vesicles on an inflamed base. The vesicles are filled with clear fluid, which in a few days becomes milky, after which they dry up, leaving small scabs. It runs its course in a couple of weeks, and is not contagious. The vesicles usually follow the distribution of one of the cutaneous nerves, and hence the disease is supposed to be of nervous origin. There is pain and some rise of temperature. It is oftenest seen about the lips and in a zone round one-half of the body. The latter is known as herpes zoster, zona, or shingles.

Treatment.—The eruption should be dusted with powdered starch, with a little oxide of zinc and camphor, and protected from the air by means of a layer of cotton-wool. Small patches

may be painted over with dermolia. The general health should be seen to, tonics being of great service, especially matricaria, thyroid and kephalin.

HERPES PREPUTIALIS.—A contagious affection of the prepuce, consisting of clusters of vesicles, usually upon a non-inflamed base, in size from the head of a pin to that of a small pea, sometimes isolated, in other cases in patches. The contents of the vesicle are simply a mass of living disease germs. Although readily communicable from one to another, or from the serum or germs running on the skin or mucous membrane, and being originally the result of a degradation of normal bioplasm, still it is doubtful if it can be regarded as a venereal affection.

Treatment.—As soon as a vesicle forms or fills, puncture it with a needle and let its contents escape, and press a sponge saturated with lime-water and tincture of iodine lotion, or with a lotion of permanganate of potash; then dry by gentle pressure, and apply ozone ointment. There is no use in caustics, as the disease will reappear after their application. In all cases, alteratives and tonics for a few weeks. If a married man, same precautions as to wife, and abstinence from sexual congress till both are well.

HICCOUGH.—Hiccough is a spasmodic affection of the diaphragm. Generally a trivial and transient inconvenience, its occurrence in the last stages of acute disease is a grave, often a fatal symptom, indicative of giving way of the nervous system generally. Continued and obstinate hiccough sometimes occurs in persons, more especially in young females of an hysterical tendency, and may continue for a very long period without cessation, except during the hours of sleep, in spite of all kinds of treatment. The causes of ordinary hiccough are generally fasting or some sudden stimulant taken into the stomach, such as highly-seasoned soup; and the affection generally subsides of its own accord. When inconvenient nothing is so likely to remove it as some active emotion of the mind suddenly excited. The continued sipping and swallowing of cold water, or sucking of ice, either aromatic spirits of ammonia or chloroform added to a glass of water, are good domestic remedies. All failing, administer periodate aurum.

HOANG-NANG.—The bark of a creeper growing in China and Hindoostan.

Therapeutic Uses.—A powerful and peculiar bactericide,

its use neutralizes snake-bites and the inoculation of rabies. Kills the bacillus of leprosy and hydrophobia.

HORDEOLUM.—Chalazion or stye, a hard, round, transparent tumor, like a grain of seed developed on the eyelid. The cause malnutrition—the bacteriological outcome, dwarfed bacteria, but identical with boils. Internally sulphide of calcium; locally, incision through the palpebral conjunctiva and a thorough curetting of the sac. If unrelieved, a succession of them is likely to follow. Being a retention cyst, it is likely to occlude the adjacent ducts, forming large sacs, giving rise to impaired mobility of the lid. Hot lotions of ozonized boroglycerid are of rare efficacy in stye.

HOT-AIR TREATMENT.—No therapeutic agent has a greater range of utility than heat, both dry and moist.

A much higher degree of heat can be tolerated if dry than if moist by the surface of the body. The physiological effects of dry heat to the surface of the body are:

1. A diffuse hyperemia of the skin, caused by a dilatation of the capillaries.
2. A sensation of numbness over the heated surface, probably caused by the effect of heat on the superficial sensory nerves.
3. A slightly-accelerated pulse and respiration.
4. An increase in body temperature of one-half to one degree.
5. Increase of arterial tension.
6. Increase in the elimination of nitrogen.

The beneficial effects are purely local, and it therefore becomes imperative to supplement these treatments by general medication. Furthermore, it is imperative that the heat bath should be followed by massage. This essential adjunct makes it advisable to take these treatments under the supervision of trained assistants and a professional masseur.

From the foregoing it will be seen that we have in the dry hot-air treatment an ideal and thoroughly practical therapeutic agent for the treatment of articular rheumatism, muscular rheumatism, sciatica, neuritis, lumbago, pleurodynia, arthritis, sprains, intercostal neuralgia, torticollis, gouty joints, pleurisy and kindred diseases.

HYDATID.—A cystic tumor which forms within some organ of the body—most usually the liver or kidney—due to the presence of the embryo of a species of tapeworm, the *Taenia echinococcus,* which infests the intestinal tract of dogs and wolves. The ova of the tapeworm, being discharged by the dog, become introduced into the human body by way of the water supply or in food, and on reaching the stomach make their way to various organs of the body, most usually the liver. Here the embryo develops into the cystic form, becoming a large cystic tumor filled with clear fluid, floating in which are other cystic embryos. The latter attach themselves to the wall of the larger cyst by means of a head with four suckers and a row of little curved hooks. The disease, having reached this stage, may end in three ways—the tumor may inflame, suppurate, and become an abscess; it may burst into the parts around; or the parasite may die and the whole tumor shrivel up.

Symptoms.—As a rule the disease is painless and presents few symptoms unless the enlargement presses upon and interferes with the functions of neighboring organs. There is a gradual, irregular enlargement of the organ attacked by hydatids; there may be a bulging of the surface over the organ, and the tumor may be felt to be elastic and fluctuating.

Treatment.—Drugs are useless; the only thing to be done is to tap the cyst and draw off the fluid; whereupon the parasite dies.

HYDRASTIS.—*Hydrastis canadensis,* commonly known as golden seal.

Physiological Action.—All preparations of the hydrastis act as a vasomotor constrictor—average doses of it paralyze the vasomotor centres and diminishes blood pressure.

It determines contraction of the uterine blood-vessels, so that considerable benefit accrues from its use in pelvic congestion, labor, hemorrhage.

Therapeutic Uses.—Excellent in atonic dyspepsia and sluggish liver; a tonic and cholagogue; a good remedy to chronic ulcers both internally and locally. It yields some energetic alkaloids, as hydrastia, zanthopnœia, hydrastinin.

Preparations and Doses.—Fluid extract. Alcoholic and non-alcoholic, 30 to 60 drops thrice daily; hydrastin 2 to 6 grains; hydrastinin, dose, 1 grain as a substitute for ergot.

HYDROBROMIC ACID.—A pure, colorless liquid, without odor, with a strong, acid taste, prepared from either bromide of potassa or barium with sulphuric acid.

Therapeutic Uses.—A heart sedative, lessens nervous excitability; checks the nerve storm of epilepsy; relieves insomnia and is an anodyne to the stomach.

Preparations and Doses.—A 10 per cent solution, in doses of from 30 to 60 drops, thrice daily, added to water.

The hydrobromate of quinine. Dose: One to 5 grains.

HYDROCELE.—The collection of serous fluid within the walls of the scrotum from various sources of irritation.

Cases are met with where the amount of fluid varies from a few ounces up to pints; it flattens or compresses the testicle and depreciates the sexual function. It is well recognized that to attempt to cure hydrocele by external applications of absorbents is useless, that tapping, draining off the fluid, following this up with an injection of peroxide of hydrogen, fifteen-volume solution, is absolutely safe, and invariably an infallible cure for this malady. The operation is simple enough. The scrotum being seized in the left hand and compressed tightly to force the fluid to the front, the testicle lies safely at the back; the trocar is forced in an upward direction at a dependent point to the extent of about an inch. With the cannula held *in situ,* and upon the rapid withdrawal of the trocar, the serum flows out freely. Every drop ought to be permitted to ooze out. A rubber syringe, containing one or two or more ounces of dioxide of hydrogen is injected into the scrotum. The skin of the scrotum is then pinched at the seat of punctures, the cannula withdrawn by a quick, steady pull, and the scrotum briskly shaken, so as to diffuse the peroxide of hydrogen through it. This done the patient is put to rest. No local application is necessary, and it is best; the destruction of the secreting faculty of the sac prevents any further recurrence of hydrocele.

Tapping is painless; the subsequent injection of peroxide of hydrogen is not near so productive of pain as the old seton or tincture of iodine injected. With this treatment 90 per cent of all cases are radically and permanently cured.

HYDROGEN, PEROXIDE OF (H_2O_2.).—Negative ozone is a colorless, transparent liquid of a syrupy consistency. as now prepared is a stable product, but if permitted to remain in a watery solution undergoes decomposition. In full strength

when applied to the skin it whitens it, but when diluted it is bland, unirritating.

The use of this agent is merely another source to obtain oxygen in a different form from a gaseous state. It is a definite compound of oxygen and hydrogen. A fifteen-volume solution, being equivalent to a two- or three-per-cent solution, yields 500 times its own volume of oxygen.

Whether inhaled or applied to the tissues it evolves free oxygen, and is the most powerful of all bactericides; none can excel in microbicide action. Administered internally from 5 to 30 drops in distilled water every four hours, it is the great scavenger to germ-laden blood. Kills the microbe of dyspepsia, the fungus of diabetes; the streptococcus of diphtheria and erysipelas. Injected into boils and abscesses it promptly destroys the pus germ. Perfectly innocuous to healthy tissue, but whenever a microbe exists it promptly annihilates it. In sprays, douches, lotions, gargle, however applied, it sweeps all microbial life before it; hence its utility in ulcers of all kinds, carcinoma, venereal. Injected into a polypus it at once causes its death.

Glucozone is simply a solution of the dioxide of hydrogen in c. p. glycerin, which is an excellent form for internal use.

It has also been utilized in the form of baths for leprosy, syphilis, and other cutaneous diseases. Instantly promotes primary unions in wounds by destroying the bacteria.

The internal administration of the peroxide of hydrogen prior to an operation fortifies the patient against the shock by the superoxygenization of the blood.

Peroxide of hydrogen H_2O_2, in the strong fifteen-volume solution, is almost as harmless as water, and yet it kills anthrax spores in a few minutes.

For preventing suppuration we have bichloride of mercury, hydronaphthol, carbolic acid, formalin, and many other antiseptics, but for stopping it abruptly and for sterilizing a suppurating wound we have only one antiseptic that is generally efficient, so far as I know, and that is the strong peroxide of hydrogen. Therefore I have qualified it not as "good," not as "useful," but as "necessary."

In abscess of the brain, where we could not thoroughly wash the pus out of tortuous canals without injuring the tissues, the H_2O_2, injected at a superficial point, will follow the pus, and throw it out, too, in a foaming mixture. It is best to inject a small quantity, wait until foaming ceases, and repeat injections

until the last one fails to bubble. Then we know that the pus cavity is chemically clean, so far as live microbes are concerned. In appendicitis we can open the abscess, inject peroxide of hydrogen, and so thoroughly sterilize the pus cavity that we need not fear infection of the general peritoneal cavity if we wish to separate intestinal adhesions and remove the appendix vermiformis. Many a patient, who is now dead, could have been saved if peroxide of hydrogen had been thus used when he had appendicitis. This single means at our disposal allows us to open the most extensive psoas abscess without dread of septic infection following. In some cases of purulent conjunctivitis we can build a little wall of wax about the eye, destroy all pus with peroxide of hydrogen, and cut the suppuration short. Give the patient ether if the H_2O_2 causes too much smarting. It is only in the eye, in the nose and in the urethra that peroxide of hydrogen will need to be preceded by cocain (or ether) for the purpose of quieting the smarting, for it is elsewhere as bland as water.

It is possible to open a large abscess of the breast, wash it out with H_2O_2, and have recovery ensue under one antiseptic dressing, without the formation of another drop of pus. Where cellular tissues are breaking down, and in old sinuses, we are obliged to make repeated applications of the H_2O_2 for many days, and in such cases I usually follow it with balsam of Peru, for balsam of Peru, either in fluid form or used with sterilized oakum, is a most thorough encourager of granulation. If we apply H_2O_2 on a probang to diphtheritic membranes at intervals of a few moments, they swell up like whipped cream and come away easily, leaving a clean surface. The fluid can be snuffed up into the nose, and will render a fetid ozena odorless.

Peroxide of hydrogen H_2O_2. Warranted chemically pure. Specially prepared for medicinal use. Isolated in the preparation of c. p. ozone, or prepared synthetically in the form of a fifteen-volume solution.

The oxygen in it is in a positive state antozone, while the ozone from which it is separated is in a negative state—the two mixing produce neutral oxygen.

Indications.—Used internally and locally in all states in which a disease germ is the factor of morbid action—as in all fevers, cancer, syphilis, tuberculosis, diphtheria, bronchitis, pulmonary phthisis, nasal catarrh, ozena, gout, rheumatism, diabetes, Bright's disease, etc.

Directions.—From a few drops to half up to one teaspoon-

ful, which is a large dose, but in cases in which the blood is germ-laden, the dose may be cautiously increased to a tablespoonful added to a glass of water every four hours.

For bathing purposes or packs, one to two tablespoonfuls to a quart of tepid water. Variable degrees of strength are used for inhalation and ulcers.

HYDRONAPHTHOL.—This is a secondary compound of betanaphthol, has a slight aromatic taste, almost colorless, sparingly soluble in water, but dissolves freely in alcohol, ether, chloroform and glycerin; it is non-poisonous, non-irritant, non-corrosive, but causes congelation of protoplasmic masses, hence its germicidal action.

In a recent analysis on the value of germicides it is only necessary for my purpose to cull those experiments immediately bearing on hydronaphthol and corrosive sublimate. And the first experiment I would quote is that made to test the relative action of each on the spores of the bacillus anthracis and bacillus subtilis. In each case the strength of the antiseptic solution used was 1 in 1,000; and it was found that in the treatment of the spores of the bacillus subtilis the length of exposure necessary to dstroy them was in corrosive sublimate thirty minutes and in hydronaphthol only ten minutes; in the bacillus anthracis a ten-minutes' exposure was necessary for hydronaphthol, while corrosive sublimate required fifteen minutes to destroy the spores. From this we may fairly conclude that hydronaphthol as a germicide is superior to corrosive sublimate or formalin, and from being non-poisonous and non-irritant it affords an ideal medicament for tinea tonsurans. As to the best means of getting the remedy constantly applied, the plasters of hydronaphthol, 10 and 20 per cent, give excellent results, limiting the propagation of the disease and causing the more rapid penetration of the germicide than any other means we can employ. The plasters also help us in starving the fungus, and to perfect this we need to hermetically seal the plaster round in the way I am about to describe. The method of treatment I have found successful is as follows: Have the head completely shaved, leaving the usual fringe all around; then wash with a 5 per cent soap of hydronaphthol, using water as hot as can be borne. After drying the scalp, apply over the affected area a 10 per cent plaster of hydronaphthol in narrow strips, letting each strip overlap its fellow, taking care that the plaster. Repeat the process, this time applying the 10 per cent

plaster for ten days, when on removal the disease will be found to be cured. During the plaster treatment apply a 5 per cent diseased patch. Outside the margin of the plaster paint a layer of 10 per cent hydronaphthol jelly (when melted) so as to exclude all air. At the end of four days remove the plaster, when the diseased stumps will be found adhering to it. Repeat all the previous process, applying for one week a 20 per cent plaster. Repeat process, this time applying the 10 per cent plaster for ten days, when on removal the disease will be found to be cured. During the plaster treatment apply a 5 per cent ointment to the unaffected portions of the head night and morning. Care should be taken that all articles brought in contact with head before treatment be destroyed, otherwise reinfection will take place, and the treatment be brought into discredit.

HYDROPHOBIA.—An infectious disease, which in nature occurs epidemically, chiefly among dogs; but the cat, fox, wolf, horse and all mammalia may become affected. Infection usually carried by a bite of a rabid animal, less frequently through a wound or abrasion.

All manifestations of the disease, as it originates in dogs, point to a grave affection of the nervous system, and shows itself in two forms: In the first, which is the most common, is known as furious rabies; the first indication is he becomes shy, low-spirited, restless, tears up things generally, bites with a peculiar high-toned bark. He refuses his ordinary food, but eats earth, rags; spasm of the muscles of deglutition and respiration; there is an abundant salivary secretion. Paralysis ensues; the jaw drops, the limbs drag and latterly he dies. In the second form is dumb rabies, in which great nervous depression and despondency, paralysis comes early, and the dog dies without any furious symptoms appearing. The dread of water is a myth.

The incubation period in man, after a bite of a rabid animal, is from fifteen to forty days up to seven or eight months, or even longer, depending greatly on the status of vital force in the bitten individual.

A very small percentage of those bitten take the disease, and when about to appear it generally shows itself with a pain radiating along the nerves from the scar of wound to the trunk, a feeling of depression, irritability, insomnia, restlessness, in which all the reflexes are exaggerated, victim starting at the

slightest noise or ruffle or external compression. Appetite fails; there is a choking in the throat.

Spasms of the muscles of deglutition and respiration, and cortical excitement as evidenced by the delirium—foams at the mouth, breathing becomes spasmodic and sighing; and all the muscles of respiration strongly contracted. Tetanic convulsions follow; face is full of terror; maniacal if occasionally conscious, delusions and hallucinations. Temperature rises, face intensely congested; rapid but progressive emaciation; great exhaustion, with paralysis and coma.

The virus of hydrophobia is not to be found in the blood, but in the nerve centres, chiefly in the cervical portion of the spinal cord.

The source of infection in all cases is supposed to be due to the bacillus, which produces irritation, effusion of serum, degeneration in the anterior cornua of the gray matter of the cervical portion of the spinal cord, and in the nuclei of the cranial nerves—these changes include pigmentation, atrophy, and vacuolation of the protoplasm.

Precautionary Measures.—Immediately a bite of a rabid animal, ligate above and below the wounded part, then thoroughly wash with warm water; cup it. Make free incisions into it; then hot water to encourage free bleeding; even excise it if the parts admit of it; cauterization with dry permanganate of potassa is good, then wash off; apply peroxide of hydrogen for twenty-four hours and dress with jelly of violets, cicatrization takes place; renew the application morning, noon, night.

Rabies is a most remarkable microbic disease, different from all others, usually as seen in our country due to an evolution in the dog under insanitary conditions. The evolution takes place in the salivary glands; there its toxin is liberated, which travels along the nerves peripheral to the centre, never implicating the blood.

A common disease of dogs, communicated both by contagion and infection, most frequently through a scratch, abrasion, a bite. In some localities it is epidemic, difficult to eradicate.

It is estimated that from 10 to 20 per cent of individuals bitten by rabid animals become affected by the disease, depending altogether upon the strength and integrity of the nervous system.

A strong, vigorous nervous system will resist the entrance of the microbe; if so feeble as to permit or effect an entrance, a period of incubation, depending upon the integrity of the vital

force of from 20 to 90 days, seldom less an interval than three weeks is required, before the central nerve is in a state of chaos.

No antitoxin—no hypodermic injection of a solution of carbolic acid has ever cured either the bites of snakes or of any rabid animals, neither has the attenuated virus been more successful. All will admit that in the most aggravated cases of snake-bite, with impending death threatening, if the patient can swallow quart after quart of either brandy or whisky, until profound intoxication is induced and maintained twenty-four or forty-eight hours, the microbe will die, patient recover.

Although we are now in the twentieth century, this partial suspension treatment must not be let drop; it is needful in peritonitis, and above all in rabies, each requiring a different remedy, but obtaining a like result. Brandy for snake-bite; opium for puerperal metroperitonitis, and skullcap and echinacea combined for hydrophobia.

It is only in the stage of incubation that any treatment is available in rabies.

The microbe of rabies consists of small globular cocci, single or united into characteristic colonies. They are not met with in the blood, but are found literally swarming in the cerebral secretion, in and around the medulla oblongata and spinal cord.

One hundred and twenty drops of brain juice from above the medulla yields three-fourths of a grain of a distinct crystallizable (ptomain) alkaloid, one thirty-second of a grain of which injected into a mule gives rise to all the symptoms of hydrophobia, and in a short time collapse, convulsions and death.

The exceptional virulence of this microbe is due to its vital and reproductive energy, to the rapidity with which it multiplies, and the excessive amount of ptomains excreted by the germ directly in the nerve centres.

The microbe is pathogenic of the disease, bears culture well in a neutral menstruum. Inoculations of the cultures, or better still the ptomains, give rise to the disease.

From these cultivations new ones can be made and carried on through successive generations, all cultures behaving in the same manner, showing exactly the same changes as in the parent culture.

The most minute droplet of any of those cultivations produces the disease in animals.

So far no germicide has been discovered that will either sterilize or annihilate the microbe; ammonia, skullcap, black co-

hosh, elecampane, electricity, Turkish baths, are of no avail. In a case of snake-bite an honest physician will prescribe brandy, see it administered until profound narcotism is induced, even if it necessitates immense doses, for he knows that if he can induce a quasi suspension of the nervous system for ten or twelve hours the snake bacillus will die—the patient is saved.

So in peritonitis deep narcotism saves the patient. Induced mainly by opium and gelsemium. From practical experience I might give you cases in which the same principle is supreme in hydrophobia, but induced by a copious, freshly-made decoction of skullcap. This remarkable plant has the faculty in its crude form only of inducing partial paralysis of sentient nerves and nerve matter, and restricting molecular activity in the motor. The action of skullcap is much intensified by alternating each dose with ammonia, either liquor ammonia acetatis or the chloride of ammonia.

The stomach must be well guarded so as to be tolerant of doses sufficient to induce a feeling of pins and needles over the entire body. No rule in either of the conditions mentioned can be laid down for doses and retention in the stomach. The doses in all cases must be effective to do the work, modified by other remedies.

If the case is let alone, incubation carried out, spasmodic action commenced, no remedy is in any way available; but one thing I will sav, that if a course of skullcap be administered thoroughly there will be no rabies. It is effective here as brandy is in snake-bite.

More recently practitioners of repute and trustworthiness in Asia have introduced hoang-nan (strychnos gaultheriana) as a germicide which will destroy the microbe.

The effects and physiological action of this drug are general indisposition, with extreme fatigue, vertigo, tingling of the hands and feet, with involuntary movement of the jaws, and a partial suspension of nerve power. If these symptoms are not present, while the drug is being administered, it is a certain sign of the presence of a microbe imbibing the remedy. In such cases the treatment must be continued, the remedy increased every dose, until the microbe is destroyed, which is known when the above symptoms appear.

If the remedy acts too violently, either because the microbe or its ptomain is absent, or to the administration of too large a dose, it is easily counteracted by administering fluid extract

licorice. Energetic, repeated doses either in the stage of sprouting (incubation) or upon segmentation (violent rabid stage) should be the rule.

HYPERICUM.—*Hypericum perforatum,* or St. John's-wort.

Therapeutic Uses.—It is an astringent and antiseptic; good for gravel, diarrhea, hemorrhage, worms, jaundice, wounds, bruises; contains a volatile oil and resin.

Preparations and Doses.—The fresh leaves bruised and applied to ulcers, or the flowers macerated in olive oil in the proportion of four ounces to the pint, or submitted, like the mullein oil, to polarized light.

The fluid extract is most available for external use: Dose: Thirty to sixty drops, every three hours, in dysentery.

HYPERTROPHY OF CLITORIS.—May be congenital, caused by reading novels, dancing, posing, roller-skating, bicycle exercise, masturbation. Ozonized extract sumbul, bromide; salix niger; very large doses of the green root tincture of gelsemium; continued for months.

HYPOCHONDRIASIS.—An obscure mental disease most commonly met with in persons of middle age. The hypochondriac studies his own feelings and functions so much, and indulges so largely in introspection, that he is always ready to believe himself to be a subject of some disorder, real or imaginary. In most of these cases there is some dyspepsia or constipation; in other cases the only cause seems to be monotony in the daily routine of life. In Ireland many cases are traceable to monotony of diet and a diet consisting principally of starchy food, such as potatoes. The disease is closely allied to hysteria.

HYPODERMIC MEDICATION.—This form of medication has been found of great efficacy in a large class of cases. The patient should be an adult, the skin should be raised by grasping it with the index finger of the left hand, and the nozzle of the syringe inserted by a rotatory and piercing movement into the cellular tissue for at least one-half or three-quarters of an inch; into this the remedy is deposited, and the syringe withdrawn in the same manner as inserted, and, as it is withdrawn, the index finger pressed firmly for a few minutes on the aperture. The best locations for use are those in which there are few veins, such as over the deltoid and nape of neck. The

remedy used, if possible, should be an alkaloid, the dose put up in the form of a compressed tablet, which dissolves readily in a few drops of water. The advantage of this form of medication is the greatest positive accuracy, compactness, and permanency.

The following maladies have been successfully treated by this method:

Abscesses.—Injected with c. p. dioxide of hydrogen are perfectly obliterated.

Apoplexy.—After free cupping to nape of neck and shoulders, active purgation, mustard, with heat to lower extremities, is most successfully treated by subcutaneous injections of ergotin.

Boils.—At any stage, aborted by injections of c. p. peroxide of hydrogen.

Bubo.—Aborted by the same procedure and remedy.

Chloroform Poisoning.—One drop of a 1 per cent solution of nitroglycerin in 15 minims of distilled water, which can be repeated in half or one hour.

Chorea.—The glucoside scutellarine, 2 grains in a solution, or from one-twentieth to one-fortieth of curare, has been successful hypodermically.

Convulsions.—Hypodermically, one-eighth or one-fourth of a grain of solution of sulphate of morphia immediately breaks the attack.

Convulsions, Puerperal.—Chloral subcutaneously is better than orally.

Congestive Chills.—Injections of atropia, alternated with bisulphate or bromate of quinine.

Croup, Membranous.—Dioxide of hydrogen, 3 to 6 drops, respectively of glycerin and water, injected into the cellular tissue over the thyroid gland, dissolves the membrane, enables its expectoration, and substitutes tracheotomy.

Dysentery.—Morphia, hypodermically, in one-third-grain doses, has been found more rapid in relieving tenesmus than any other opiate.

Eclampsia, Puerperal.—Veratrum viride, 2 to 4 drops of the tincture, subcutaneously, as required to keep the pulse down to about 60. Pilocarpin, 2-per-cent solution, is also recommended.

Eczema.—Arseniate of soda, hypodermically, in solution of one-fifth, one-half, and 1 per cent, commencing with 10 minims of the weaker, and gradually increasing, is recommended.

Enuresis, Nocturnal.—Two very small doses of the nitrate of strychnia, injected in the vicinity of the rectum at suitable intervals, have proved successful.

Epilepsy.—Curare in solution, 2 grains in 25 minims of water, with 2 drops of hydrochloric acid. About once a week inject about 4 drops beneath the skin. It has cured cases of several years' standing within two months.

Erectile Tumors.—Have been successfully treated by injections of perchloride of iron and chloride of sodium in solution, the tumor to be surrounded by a ring.

Erysipelas.—Carbolic acid, 3-per-cent solution, eight or ten injections at the same time, so as to surround and cover the inflamed regions; also salicylic acid in the same manner.

Foreign Body in Esophagus.—Threatened strangulation from impaction of gullet has been promptly relieved by inducing vomiting. Apomorphia, one-tenth grain, hypodermically. Emetina is also suggested in the same way.

Fractures, Ununited.—Glacial acetic acid, 5 to 10 minims, between ends of the bones with hypodermic syringe. Iodine has also succeeded, used in the same way.

Goitre.—Has been successfully treated by subcutaneous injections of ergotin, one-third, gradually increased to 1 grain.

Hemoptysis.—Sclerotonic acid (substitute for ergotin), 5-per-cent solution injected in neck or arm.

Hemorrhages.—Hemorrhages, hematemesis, and uterine hemorrhages have all been arrested by hypodermics of ergotin and ergotinin. If pain, add morphia.

Hernia.—Is more easily reduced by giving an hypodermic of morphine, with or without atropia.

Hiccough.—In an obstinate case, resisting all other means, three-eighths of a grain of chlorhydrate of pilocarpin, hypodermically, quickly proved successful.

Hydrophobia.—Much amelioration of the symptoms has followed hypodermics of curare.

Obstruction of the Bowels.—Aloin has been used with success, subcutaneously, to move the bowels.

Opium Poisoning.—Quite rapid recovery is reported to have followed warm hypodermics of fluid extract coffee, in 30-minim doses Caffein citrate and sulphate atropiæ are also considered antidotes to opium.

Perspiration, Arrest of.—Pilocarpin, the alkaloid of jaborandi, will cause more or less profuse sweating, according to amount injected beneath the skin.

Polypus, Nasal.—Carbolic acid, 1 part; glycerin, 4 parts; 20 drops sunk into tumor by means of hypodermic syringe effectually dissipated polypus in some cases reported.

Retention of Urine.—From paralysis of the bladder, accompanying typhus, variola, and hydrocephalus, has been promptly overcome by hypodermics of ergot in the fossa behind the great trochanter.

Skin Diseases.—Caused by animalculæ. Sulphuric, carbolic, salicylic, or sclerotinic acids, hypodermically, as in erysipelas.

Snake-Bites.—Ammonia, brandy, carbolic or salicylic acids are all recommended, hypodermically, in case of snake poison, and have been injected with benefit directly into a vein.

Strychnia Poisoning.—Caffein, 1 grain, hypodermically; alcohol in same way is also suggested; chloral injections are also mentioned.

Surgical Shock.—Quinine, 6 grains, hypodermically, with one-third grain of morphia.

Suspension of Salivary Secretion.—Pilocarpin excites salivation.

Sweats, Night.—Atropin has given results.

Syphilis Bacillus.—Completely annihilated by injections of albuminic solutions of the protiodide of mercury.

Tetanus.—Nicotine, one three-hundredth of a grain, alternated with chloral hydrate; accompanied internally with powerful antispasmodics.

Trichinosis.—Ergot, dioxide of hydrogen, hypodermically, have effected cures.

Tumors.—Hypodermically, dioxide of hydrogen, followed by faradization, sponged, moistened with the same remedy.

Urticaria.—Saturated solution of bisulphate of soda, peroxide of hydrogen, and other bactericides.

The hypodermic use of either glandered horse serum or the ass or goat preserved by carbolic acid produces degenerative changes in heart, liver, kidneys.

HYSTERIA.—Anemia of brain and spinal cord, giving rise to morbid excitability of the nervous system, with convulsions, paroxysms and various disorders.

The peculiar pathological condition gives rise to distress at the epigastrium—a feeling as of a ball working up from the abdomen into the throat; convulsions, and a perfect *fac simile* of all disease in which spinal accessory nerves are involved, as tonic spasms, coma, epilepsy, chorea, lockjaw, heart, liver, abdominal disease, all simulated.

General alteratives and tonics, avena sativa, kephalin, nux, glycerite ozone, coca, pulsatilla.

Seclusion and rest, perfect isolation from all friends.

Massage for five hours daily by vitalized operator.

Electricity by induction and faradization.

Diet.—Most highly animalized possible, with oatmeal and boiled fish. Most perfect cures by this method in all cases.

ICHTHYOL.—A distillate of bituminous substances. In appearance it resembles coal-tar; it unites freely with petroleum ointment or oil, and is partly soluble in alcohol or ether.

Therapeutic Uses.—A cutaneous bactericide. Its value consists in its high percentage of sulphur, its solubility in water, and its freedom from toxic properties. It is used both internally and externally in various forms of rheumatism, gout, etc.; also in parasitic skin diseases, eczema, etc., variously diluted with water, or in the form of an ointment.

In the form of a jelly it is curative in gastric catarrh; kills the sarcinæ; in suppository, valuable in enlarged prostate.

The administration of this suppository should in all cases be preceded by a boroglycerid suppository at seven p. m., and the ichthyol two hours later. The advantages to be derived from its use are complete absorption of all adventitious material, and a reduction in the size of the gland to its normal condition, provided it is persevered with.

The shape and make of this suppository are unique, presenting many advantages for easy insertion, being largest about the middle, tapering to each end, the apex being pointed and the base truncated, with infinitesimal circular corrugations.

When this suppository is introduced as far as its greatest diameter, the pressure of the rectal sphincter at once carries it forward into the rectum, and the inconvenience and discomfort to the patient of having to push it far in, against the pressure of the sphincter, is obviated. This is of special importance in prostatic hypertrophy.

These suppositories are germicidal, their base the finest butter of coca, an inoxidizable hydrocarbon. Their use obviates all surgical procedure, which is so disastrous to mental integrity.

The internal administration of the jelly of ichthyol is preeminently destructive to the sarcinæ ventriculi, the factor of gastric catarrh; hence a good remedy for that form of stomach trouble.

ICHTHYOSIS.—A rare disease of the skin, associated with a dryness and scaliness of the cuticle, without heat, pain or itching. It is usually congenital.

Treatment.—Frequent bathing and the free use of dermolia ointment is curative.

IDIOCY.—Gaping idiocy, feeblemindedness, a condition in which there is a deficiency of the cineritious elements of the brain, and an obliteration of its typical fissures of thought.

Its etiology is either alcoholic conception, incompatibility of temperament on the part of the parents, drugging of the mother during pregnancy with abortefacients, drudgery.

Its treatment is quite elaborate and generally successful before the patient reaches the age of twenty-one. The absurd cataclysmal stages of seven, fourteen and twenty-one must find no place in scientific treatment. Thyroid extract must be administered daily in such doses as the attending physician deems prudent to start brain growth; persevered with for months; c. p. solution spermin, avena sativa, kephalin, comp. hypophosphites, diet rich in phosphates, oatmeal, boiled fish, wheaten grits, etc., liberal to a fault. Frequent bathing or sponging to wipe away the peculiar exhalations. Massage to quicken the springs of life. Plant life in him by maintaining the highest possible state of health. Keep him from isolation, solitariness, as they increase intellectual torpor and are productive of deterioration. Surround him with influences of art and nature to make life joyous and quicken his power of thought.

If under twenty-one years of age, thyroid extract of the lamb never fails; push it during all seasons.

Summer brings a remarkable immunity from disease; gymnastics, massage, faradization, moral training and instruction can be pushed.

IMMUNITY.—The capability of our bodies in a state of health to resist the attacks or entrance of disease germs is wonderful; different, however, when we are unnerved, either by overwork or worry or depression, or exhaustion; then all or many bacteria can enter, as the vital forces are powerless to resist. No evolution of bacteria in health—even if an entrance be effected, they are harmless, as long as perfect health exists. Germicides will kill microbes, stop their propagation, but it is vital force that prevents their growth. Germs may pro-

duce disease, but health never produces germs. Deadly germs can only live in a pabulum homogeneous to their character.

If, with the microscope, we examine a capillary blood-vessel, we will observe the red blood-corpuscles flowing rapidly along, compactly, close together, in the centre of the blood-stream. They appear to be hurrying on as though engaged on some important business, and, being somewhat late, were impatient to reach their destination and begin work at once. They seem to have a definite purpose, and are eager to carry it out. The red blood-corpuscles have, indeed, a special function, that of carrying oxygen from the lungs to the tissues of the body. The oxygen, which is loosely combined with the hemoglobin of the red blood-corpuscles during their momentary exposure while passing through the lungs, is carried to those parts of the body to the welfare of which it is essential. In as far as we know, red blood-corpuscles do not convey carbonic acid in any considerable quantities from the tissues to the lungs; that this gas does reach the organs of respiration from the tissues and is there expelled from the body is well known, but that it is carried by the red blood-corpuscles is not by any means assured; it is, in fact, probably carried by the plasma

When we examine the white blood-corpuscles we find them moving slowly along the outer edge of the capillary blood-stream, clinging to the sides of the vessel, or lying in the still layer. We will also notice the leukocyte occasionally sending out pseudopodia as if feeling along the walls, and presently, into a small crevice between the cells, the process will insinuate itself, and the white corpuscle gradually passes from the capillary into the surrounding tissue.

A white blood-corpuscle is composed of native undifferentiated protoplasm, not fitted for any special purpose, but possessing all the fundamental properties of protoplasm—irritability, contractility, metabolism, reproduction, etc. Therefore, when it escapes into a surrounding tissue, it has the faculty of becoming a part of that tissue, whether nerve, muscle, connective, or other, but if not taken up, it enters a lymphatic vessel, and in time returns to the general circulation, to enter upon another round of adventure. As free protoplasm, the white corpuscle has the fundamental properties mentioned; as fixed, it is governed by the organ or tissue of which it becomes a part, and we have then a manifestation of certain only of these properties, to the exclusion or complete subordination of all the rest.

As has already been stated, the leukocytes are in the still

layer of the capilllary blood-stream, having, apparently, very little to do, and abundant time in which to do it. These entities are, however, not so idle as they appear, but are, in fact, doing what we might call police duty. They are on the look-out for invaders, foreigners, such as bacteria, bacilli, and micro-organisms of every kind, for such are the natural prey of the leukocytes, or, as better designated, the phagocyte.

Bacteria abound everywhere, on all external things. We absorb them constantly with our food, with our drink, and with the air we breathe; they thus constantly reach the blood-stream in large numbers, but are there attacked and destroyed by the phagocytes, and whatever harm they might have done is prevented.

When germs come in extraordinary numbers, the conflict between the phagocytes and the invaders grows fiercer, and should the foreigners prove too strong, the phagocytes suffer defeat, the pathogenic bacteria triumph, and the body in which the conflict has occurred is damaged to such an extent as to destroy the organism as a living entity. But if, as is more frequently the case, the phagocytes have eventually conquered, the body then becomes immune to that special form of invasion against which battle was waged, and will not again suffer from an attack of the particular form of pathogenic germ which was conquered. And thus the individual is protected from a future attack of measles, smallpox, or whatever form of contagious disease is represented by the attacking pathogenic germs.

The battle between the phagocytes and the assailing hosts gave rise to considerable friction, the temperature of the body was elevated, the circulation accelerated, and the patient became very uncomfortable during the conflict. The phagocytes at first, unaccustomed to the invaders, were taken by surprise, did not understand the methods of warfare employed by their opponents, and were almost defeated. But as the war continued, new phagocytes were born, who, arriving on the field with inherited resistance, acquired more, until in time a race appeared which was able to expel the enemy. Perhaps several generations of phagocytes may have been necessary with the survival of the fittest before this was accomplished, but when once attained, immunity was permanent. Sometimes, rarely, a second attack of the same contagious disease may occur. This is due to the debilitating influences to which the body may have been subject, and to an exhausted heredity, the opposing power of the phagocytes having been weakened.

Acting upon the theory of natural immunity through phagocytic action, artificial immunization has been attempted. The object has been to gradually render the phagocyte immune to the various microbes of infectious diseases by injecting into the blood a weak cultivation of the pathogenic organism. As the phagocytes learned to resist the weakened culture, the strength of the culture was gradually increased, and in proportion the resistant power of the phagocyte increased, until eventually, the strongest infection was repelled, and thus immunity was conferred upon the body.

In this manner hydrophobia was anticipated, smallpox prevented, and other infections, of which a weak and harmless germ culture could at first be made, were introduced into the healthy body to render it immune. It was for a time claimed that almost all diseases could thus be evaded, even syphilis, tuberculosis, and cancer; and enthusiasts were rejoicing that the millennium in preventive medicine was near at hand.

This theory of immunity has terminated in one of the grossest frauds ever perpetrated upon the medical profession, fallacious in every essential point.

The theory of the phagocyte action of the white blood-corpuscles was also made to serve here. It was granted that there was a conflict between the invaders and the phagocytes. The theory was, then, to increase the number of phagocytes by the injection of white blood-corpuscles into the body, and thus to re-enforce them, as it were, and in this way to overcome the pathogenic organisms by force of superior numbers.

According to a very popular theory, a course of injections must be taken for the prevention of each contagious disease, as immunization from one did not prevent at attack from another, different in nature, and so it would require a long time to render the body safe from all. Seropathy does not endeavor to render the body immune, but waits until infection occurs, and then by re-enforcing the natural protective forces of the body, the phagocytes, drives the disease from the body.

Both of these theories are based upon well-known facts, and doubtless have some good points. That the results are, so far, not all which fervent adherents claim is well known. There seems to be a limit to the protective and combative power of phagocytes, however numerous, and when introduced into the blood in large numbers they consume each other or die, and are thrown off by the excretory organs. The normal proportion of white blood-corpuscles in the blood is at most but one of

two hundred of the red, and it does not appear that artificial leukocytosis increases the resistant power of the body. The theory is a beautiful one, but it fails in its ultimate realization. It is to be regretted that such is the case, but from foreign shores the rumblings of decay are already heard, and soon only those behind the times will be found upon this ground.

In a high state of vital force—perfect health, free from lesions, free from auto-intoxication is a body immune—a body in which pathogenic microbes are powerless to cause disease; all disease germs require a soil ready for their reception. There must be no defect, no depression of vital force either temporary or permanent.

True a rudimentary condition of the great sympathetic renders its possessor immune to some maladies, such as yellow fever, acute laryngitis, carditis, pneumonia, etc.

Immunity is lost either by neglect or ignorance of hygenic and sanitary precautions—it is lost by inertia, sloth, which gives rise to auto-intoxication, the indirect cause of licentiousness and intemperance, potent factors in the production of disease.

Remedies that vitalize the nervous system act efficiently by promoting molecular activity of the great sympathetic—favor the acquisition of immunity, such as change, abundance of fresh air; good wholesome, unadulterated food, bathing, massage, etc., together with the administration of passiflora, a nerve builder, aided by avena sativa, kephalin, alternated with thyroid extract, c. p. solution of spermin, protonuclien.

Immunity by nutrition increases the phagocytes that take up foreign bodies, poisons, into their own bodies and destroy them; then certain substances appear in the blood, antagonistic to all toxins, and the vital activity of all disease germs; then a process of immunization goes on and keeps ahead.

IMPAIRED VISION.—One thing that strikes a stranger visiting our large cities is the vast number of cases of impaired vision. Now, gentle reader, you must not entertain the idea that all such cases in young men and women are due to masturbation, or that in adults it is due to sexual excesses. A certain proportion are due to those causes.

A great excess of uric acid in the blood produces a hazy or foggy vision.

To the presence of toxicity we must trace the largest production of impaired vision—that toxin of disease germs. I

have met with numerous cases in the eruptive fevers of sudden loss of sight, which was restored by a warm bath and an emetic.

The toxin of typhoid fever, under the old treatment, often gave rise to optical neuritis and cerebral degeneration. Under the germicidal system this is unknown.

The toxin of diphtheria has a preference for the optic nerve, for certain branches of the musculo-spinal, the palate, while that of spyhilis affects the cranial nerves generally.

The prolonged use of all acro-narcotic drugs is injurious to the optic nerve, the alkaloidal element leads to neuritis of the peripheral part of the nerve.

Nicotin from pipe-smoking, tobacco, comes under this class.

In impaired vision from tobacco-smoking there exists an interstitial inflammation of the axial portion of the optic nerve, a true neuritis. The defect occupies the centre of the field of vision and is usually the most marked for colors.

The impaired vision in chronic alcoholism is due to atrophy of brain and optics, a true shrinkage.

The impaired vision in diabetes is due to the toxins of glucose giving rise to inflammation and opacity of the lens.

Very much of the impaired vision of the present age is due to the preservation of milk and other food products, especially meat and poultry by formalin—a process which causes irreparable atrophy of the optic nerve of every individual who consumes such articles.

Impaired vision due to toxins affecting the optic nerve is best treated by a general alterative and tonic course, improving nutrition in every possible manner, inculcating a change of scene, the withdrawal of the poison, stimulation to the root of the optic nerve in the medulla oblongata.

As a real curative drug ozone water is undoubtedly the best.

It is a scavenger to the blood, an excellent remedy to sweep alkaloidal poisons from the tissues.

Although a powerful eliminator of tissues it is constructive.

The dose not to exceed three teaspoonfuls daily—one morning, noon and night.

If there be anemia give protonuclien a trial.

If the case is stubborn I have been most successful with the hypodermic injection of the nitrate of strychnine over the deltoid muscle, the solution being eight grains to the ounce of distilled water. Ten drops every day, or if twenty drops be injected the patient must be held under the physician's observation for an hour after the injection.

IMPETIGO.—A disease of the skin characterized by the appearance of pustules, which are most numerous on the face and limbs, but are generally few in number at one time. Each pustule is surrounded by some redness. After a few days the pustules burst, shrivel, and dry up, scabs being formed. It is most commonly met with amongst children, but one variety appears to be contagious. It is not a dangerous disease, although there is often some slight constitutional disturbance.

Treatment.—Locally dermolia ointment is invaluable internally sulphite of lime.

IMPOTENCE.—An inability to copulate or perform the sexual act is one of the most common derangements of the male sexual organs, and this failure of the generative function is either due to debility or weakness; to deficiency or absence of erection; to abnormal conditions of the genital organs, which render intromission of the penis impracticable. Hence men who are impotent are usually sterile, the power of procreating depending upon depositing the semen well up into the vagina. There are four conditions, either of which may render a man impotent:

1. Debility or Atonic.—The most common of all forms, due to exhaustion of the nerve cells, a sequel of fevers; local inflammation of the prostrate urthra, the result of sexual excesses, gonorrhea, injuries, masturbation, withdrawal.

2. Sympathetic or Psychic.—Due to some damage done to the great sympathetic, either by or through some depressed emotion, desire, affection, passion—the outcome of sexual neurosis, brought about by excessive mental strain, close literary brainwork, which is attended by a lack of confidence.

3. Paralytic.—Generally due to defective nutrition of the nerve cells or neurosis of the reproductive organs; often originates in masturbation, sexual excesses, perversion of the sexual act, dalliance, wearing condums, varicocele.

4. Organic.—May either depend upon malformation or some congenital defect; or mutilation or deformity; or obesity, inguinal hernia, hydrocele or undescended testes; or to the toxins of disease germs, drugs, coal-tar derivatives, alcohol, which give rise to softening of the brain or spinal cord.

The first three forms of impotency thus enumerated are more common in America than any other country in the world. This is due to the widespread excesses, masturbation, overstimulation; to our highly oxygenized atmosphere, to an intense neu-

rosis which pervades our entire population and infiltrates every cell and neuron of the body; to debasing, sensually-absorbing literature.

In higher altitudes impotency is alarmingly common.

The treatment of these different forms of impotency requires great skill, finest discrimination, tact and extensive experience.

The confidence of the patient must be secured; he must be squarely and honestly dealt with; all causes that can be removed should be got rid of. The general health should be seen to by proper clothing, daily bathing and a most nutritious diet.

All cases are benefited by a general tonic and alterative course of treatment, and every organ in the body, especially the brain and spinal cord, put into good working order.

All incidental maladies, as piles, varicocele, relaxed states of the ejaculatory ducts, seminal vesicles, stricture, irritable prostate, all must be got rid of.

It must also be recognized that certain trades or professions blight, wither, exhaust the reproductive centres, such as operators in photographic and electrical supplies, or workers in lead.

1. Debility or atonic impotency is the most common form. Through some weakness, the lumbar or reflex centre for erection fails, wholly or partially, to respond to the ordinary stimulus; the centre is defective, lessened in vitality, deficient in activity, mobility, excitability, tonicity. Any cause or causes which would be productive of a partial death or inflammation of the prostatic portion of the urethra will give us this form of impotency, such as masturbation, sexual excesses, gonorrhea, bicycle riding, perversion of the sexual act, congress with harlots; a constricted or elongated prepuce.

Inflammation of the prostate urethra and genito-spinal centre gives rise to seminal incontinence and incapacity. It is a true neurosis, with the prostate urethra exquisitely tender, with a diminished sensibility; lax, flabby condition of the skin of the penis and scrotum.

Most common of all forms, usually caused by gonorrhea and masturbation, but many other latent causes are at work; characterized in all cases by an inability to consummate the act of coition.

All aphrodisiacs, such as nux vomica, muira puama, spermin, ambrosia, damiana, must be kept back until all congestion is removed, until the reflex excitability of the spinal cord is sus-

pended. The diet in the four varieties should be abundant, generous to a fault, nutritious and digestible, but unstimulating —tea and all alcoholic beverages avoided. Sleep on right side on a hair mattress; empty the bladder before retiring. Bicycle and horseback exercise must be avoided, even driving on the rough seats is injurious. Every condition in life that will cause congestion of the prostate urethra must be carefully avoided. To cure the genital centre in the cord, remove the congestion in the prostate urethra, wipe out irritability, the combination of the green root tincture gelsemium and ozonized passiflora excels all other remedies.

2. Sympathetic or Psychic Impotency. In this form we must recognize that the great sympathetic has suffered a shock, a partial death.

There are numerous forms or varieties; the most common are the sexual, those due to exhaustion of the great sympathetic which covers the anterior portion of the penis.

The damaged state of this branch usually occurs in those who have been guilty of early indiscretion, masturbation, excesses, unnatural methods of intercourse, or in those who have had the gonococcus, or had congress with harlots. Catarrh of the prostate and bladder, or inflammation of the testes, or some depression of the nerve either in the heart, larynx, lung or stomach, because any weakness of this nerve in any part, even in organs so distinct, causes by sympathy genital failure, all organs supplied with branches of this nerve are in constant communication with each other—they harmonize.

In more than two-thirds of all cases of impotency the cause lies in a deranged state of the sympathetic, a lack of confidence in his power to accomplish the act; a fear or dread which renders them impotent. In consequence of this fear and dread, the inhibitory nerves become paralyzed in any one resorting to unnatural methods for the gratification of his sexual appetite. Even the prostate in highly civilized men contains in its cortical layers extensive nervous plexi interspersed with ganglia.

This form of impotency not infrequently disappears spontaneously when the mental condition is removed—pain, grief, misfortunes have a paralyzing effect on the centres of erection.

Impotency from the restraining or inhibitory control of the brain over the genital spinal centre is much less common than the preceding form. The erection may cease or fail altogether under the influence of excitement, or under the influence of

some depression, emotion or passion, or a mental preoccupation, is a fact with which we are familiar. Masturbators who marry, or married men who resort to withdrawal, are at first victims of this form. All such are liable to have erections failing before the act is complete, or having erections so feeble that penetration is impossible.

Disgust, fear, indifference, repugnance, suspicion of infidelity, lack of self-confidence, due to early vices and excesses, has produced reflex excitability.

The semen of young men of a nervous temperament who have been addicted to the secret vice, or been with courtesans, or who have read books with vivid colors, very soon become destitute of healthy spermatozoa; that is, they become dwarfed, poverty struck, infertile, and lose their vitalizing effect upon the careworn sufferer, and the so-called seminal discharge is thin, watery and loaded with spermatic crystals, and the very presence of these crystals denotes nervous bankruptcy, diminished spermatozoa or their entire absence, degenerative changes with unproductive semen.

Men with damaged sympathetic nerve or brain, with a chaotic or disarranged nervous system, often suffer from imaginative impotency from the slightest exciting lesion.

Some neurasthenic men will imagine their penis too small, others have occasional nocturnal emissions and they are afraid of failure; while another class imagine that they have either stricture or a tight foreskin, or varicocele, or a gleety discharge, or that their testes are wasting. All usch, when they make the attempt, not infrequently have erections failing through sheer fear of inability to penetrate.

The mind preys upon itself, constant thought that impotence is impending, that it is the natural outcome of early errors or excesses is sure to cause a failure.

Young husbands on the first night of marriage often fail, simply through eagerness; the sympathetic influence withdrawn from the heart all droop. Most men will fail once in a while, especially if they have masturbated; they are baffled because they cannot consummate the act; unfortunate attempts give rise to much distress and misery in regard to its re-occurrence.

In psychical or nervous impotence everything is favorable for a cure if all the sexual organs are normal. The excited cerebral activity must be overcome by the ozonized passiflora extract, doses sufficient to control their abnormally excitable nervous patients, who enter upon coitus with powerful erec-

tions and extraordinary excitement, yet before the beginning of the act the penis droops and its introduction an utter impossibility. Such failures are discouraging, but in the ozonized passiflora, in black willow extract ozonized, in the salix nigra bougie and suppository we have a true panacea.

Psychical impotency depends upon a damaged sympathetic, characterized in a large percentage of cases by weak erections of short duration, ejaculation too soon, aversion not an infrequent condition. Complete loss of erections is soon followed by abolition of the sexual appetite altogether.

As patients suffering from physical impotence have generally a normal genital apparatus, and very few of them suffer from azoospermia, the prognosis as a rule is favorable. This neurosis of the sympathetic is most variable in its manifestations. When alone in bed he may have powerful erections, yet as soon as he attempts coitus, he approaches it with fear and doubt, and there is no erection, or an imperfect one. Some men can go with one woman only; whereas, there are others who can go with any one, under all conditions. Brainworkers, as a rule, play a lamentable rôle in sexual intercourse.

The nervous system is particularly susceptible to the effects of sexual excesses, still more to masturbation; both induce a series of changes in the nerves—in the cells of the cerebral cortex—which is of the nature of a softening, with a swelling of the protoplasmic branches of the fibres of the nerve cell. These changes are followed by a gradual disintegration and breaking up of the cell protoplasm.

3. Paralytic.—May be defined as a loss or decay of erectile power, with diminished sensibility and size of the organ present in the advanced stage of impotency. It may be partial or complete. Most commonly met with in those who have abused their sexual powers with harlots, masturbation, excesses, or have received blows or injuries upon the head or spine.

It is a sort of blight upon the reproductive organs. Most insidious in its commencement, appearing in men of thirty years of age, becoming more common as we ascend the scale of age, with apparently no effect upon the general health, unless it be an occasional slight dyspepsia or marked depression in the hot weather.

In every case there can be detected a secret draining away of semen, a mere humidity, moisture, weeping, but just enough, week by week, to undermine the health, impair the strength, weaken the vitality of the individual, rendering him liable to cerebral softening, apoplexy and paralysis.

In other cases semen may pass in the urine, or there may be intermittent priapisms, followed by exhaustion, prostration.

Such states of oozing or leakages are not less debilitating than an emission, for every drop that does escape is the abode of a living being, a particle of living seed, possibly deteriorated by disease, but the gradual loss of which is tantamount to the destruction of the body.

For the cure of sexual apathy or paralysis I have found it of the utmost benefit to administer remedies both by the rectum and mouth.

In the rectum remedies which will dissolve readily set free their potent properties and be quickly absorbed into the seminal vesicles, which lie directly in front of the rectum, affecting also the sympathetic and ganglionic nerves that surround the vesicles in a veritable network.

Salix nigra suppository, for losses, drains, weakness, exhaustion, and in short all forms of spermatorrhea.

The pink marrow suppository after every meal for lost vigor, degeneration of the sexual ganglia, for obliterating reflex neuroses, and some forms of impotency and sterility; for vitalizing and rejuvenating the deadened, dulled, paralytic and all forms of sexual decay.

The pink marrow restores strength, imparts tone and equilibrium to deadened nerves; besides, it soothes irritability and excitement.

Muira puama is a drug of intrinsic value, for if there be a spark of sexual vitality left, its careful administration will bring it to the surface.

This remedy supersedes all sexual excitants, and is worthy of the serious consideration of the profession.

4. Organic Impotence.—The power of sexual intercourse may be altogether extinguished or permanently abolished in consequence of certain congenital or acquired defects, malformation, injuries or disease of the external genital organs, through which penetration and erection is impossible; an arrest of the secretory activity of the testes, malformation of the penis from a mere rudimentary condition to one of hypertrophy; a scrotal hernia, hydrocele, deformities of the scrotum unfit the organ for use. Congenital shortening of the corpus spongiosum, which keeps the penis bent down toward the perineum. Distortion and vicious deviation, generally due to induration during erection externally to one side or the other, interfere with coition, rendering that act impracticable; calcification of

the spongiosum may give rise to impotence from upward or downward curvature of the penis. Absence of the testes is attended by an inability to copulate. If present, the microbes of syphilitic cancer completely destroy their structure, secretory and fertilizing power.

The power of erection may, after it has been lost, be restored, if the cause can be removed. If it depends on syphilis, comp. saxifraga and chloride of gold; if on arrest of development, ozonized thyroid extract, protonuclein, oats, kephalin, c. p. solution of spermin. If it arises from indiscreet use of saturating the system with medicinal agents, such as lead, arsenic, opium, cocain and all the coal-tar derivatives, a general alterative and tonic course is best, with the comp. tincture of ambrosia orientalis orally and in suppository form.

As the state of impotency is of such vast importance, we herewith append the views of the leading physicians in our country on the subject:

Impotence is a morbid condition, physical or mental, in either sex that prevents the spermatozoa of the male from coming in contact with the female ovule; in other words, it is an inability to consummate the sexual act. Sterility is a condition in which neither spermatozoa nor ovules are secreted or elaborated; or if evolved, their vitality is immediately destroyed, or possess no fertilizing power whatever—a perfect want of power to fecundate.

The act of copulation in man may be rendered inoperative by a variety of causes, such as by an absence of the penis, or a want of growth or development, or malformation, or mutilation of the organ. The dorsal or upper aspect of the penis is covered with branches of sympathetic nerve, and its erectile power may be influenced by moral influences, as emotions, desires, affections, passions; these may be simply overexcited, or violent, or dormant; the man may have lost his confidence, through fear, or modesty, or anxiety, or great love, or even disgust, and find it impossible to get an erection, the organ remaining flabby, like an old rag. It is to be naturally expected that diseases, as in fevers, blood diseases, and general debility from any cause, would render the sexual organs feeble for some time. Injuries about the back of the head, blows, falls and jars of childhood, as well as the concussions, shocks of more mature life, as railroad accidents—which are a great factor in its production; heat of sun on back of head; those are the most stubborn, as sexual desire is located and semen secreted in the brain. Again, in-

juries and diseases of the spinal cord will abrogate the power to copulate, though the desire remains and semen may be secreted. Abuse of the sexual organs by masturbation, and by what is vulgarly known as tasting, destroys every vestige of erectile power. If persisted in, the function may be forever lost. Congress with loose, lax, very large women, or those affected with leukorrhea, or excessive sexual intercourse, will in time impair and remove the power of erection. Excessive obesity, large scrotal hernia, hydrocele, locomotor ataxia, and other diseases will also prevent coition. Drugs, and the reckless abuse of some remedies, have a most deleterious effect on the sexual function. The excessive use of tobacco, which impairs digestion, weakens the nervous system, relaxes and whittles down the muscular tissue, renders a man feeble in procreative power, and ultimately saps his very vitals. Opium eating, or smoking, or morphine and chloral using, dries up the very springs of life, prevents the elaboration of semen in the brain, and paralyzes the nerves that supply the erectile fibres. The long-continued use of digitalis in cardiac affections tells most disastrously on the penis, in causing impotency as well as sterility. The long use of bromide of potass on brain, spinal and testicle is equal to castration.

The treatment of impotence and sterility must be influenced by the causes from which they spring; some are incurable, whilst others can be removed by appropriate remedies. Cases that depend upon congenital deficiency or malformation of the sexual organs are all more or less capable of removal in one way or other. The cases of impotence which depend upon functional or moral causes are the most numerous.

It is met with in the following forms: slight deficiency of desire and capacity, or in deficiency of capacity with an increase of desire, as is met with in spinal irritation or blows on the head. In either of these forms the emission may come too early or even before introduction.

Profound deficiency, both of desire and capacity, due to self-abuse, excess or perverted sexual function, in which varicocele, wasted testes; penis cold, shrunken, paralyzed, or anesthetic; power of erection weak or utterly wanting, is the most common of all forms. Some have damaged their procreative powers so irreparably that erectile power is increased abnormally, and in the sexual act no discharge of seminal fluid takes place; while others have a mere debility or weakness of the generative organs from too early coition or abuse.

The sexual sense is in the brain, transmitted by nerve fibres to the glans penis, in which all sensations in the male sexual apparatus originate. The delicate pinkish or reddish mucous membrane of the head has in it thousands of microscopic nerve fibrils, each of which ends just under the mucous membrane in a delicate pear-shaped bulb, about one-twelve-thousandth of an inch in diameter.

It is the overexcitement of those nerve bulbs by self-abuse, excesses, sedentary occupations, venereal disease, or by agents acting on the brain, as solitary confinement or blows; these and like causes deaden the nerve bulbs, and give us the impotence so common in the present age. It is then the damaged glans penis and brain that we find to be the source of failing power, lost sensitiveness, lack of erectile power, wasting, shrinkage, impotency. Now the ordinary treatment for such cases is bathing, friction, massage, best of diet. The internal use of glycerite of kephalin ozonized, phosphated tincture of oats, damiana, etc., is often slow, unsatisfactory, or it may be ineffectual.

But the direct method of treatment seldom fails, that is to bring ozonized vitalized bougies into the urethra up to the seminal ducts in the prostate urethra, permitting them to melt and be absorbed, so that they will soothe the nerves of the glans and reinvigorate them with new life. The absorbents here are keen, active; they carry the remedy deep down to the ducts, vesicles and nerves, imparting tone, vigor to the parts.

The most hopeless cases of impotency are those in which the brain and spinal cord have been damaged from shock, concussion, the toxin of disease germs, sclerosis of the cord (ataxia), some chronic organic disease of the cord, thickening, mutilation; these are not common, and, as a rule, cannot be rectified.

As a rule there should be a general treatment in all cases, which should embrace daily bathing, with the use of the shower bath, friction, massage, hips daily; bowels to be kept regular; sleep on right side, and its duration extended to eight or nine hours out of the twenty-four; moderate exercise, no mental work, no care, worry or excitement. The use of tea, coffee, whisky, together with tobacco, must be rigidly forbidden.

The use of brain food should be insisted on, such as oatmeal, broiled white fish, corn bread, eggs, oysters, beef, mutton, poultry, game; aid digestion, if necessary, with pepsin or papoid and matricaria.

An alterative and tonic course can always be followed with

advantage, as it has a tendency to improve the general health; besides stimulating applications to the spine are most beneficial in the form of plasters, friction, shampooing, electricity.

Men with a largely developed or weak great sympathetic often suffer from passive or imaginative impotency, fear they have an inability; disgust with their partner; perfect incompatibility in some cases, and it is in those very cases the administration of passiflora and matricaria work magnificently.

As to special remedies for the cure of real genuine impotency, a physician can select from the following list a few remedies of genuine, intrinsic value:

Comp. tincture matricaria for all around tonic in every case of sexual impotency is unexcelled in its action. It stimulates a rousing appetite, braces up the reproductive centre, the brain and the cord.

The ambrosia orientalis, either in tincture, pill, tablet or suppository, is a powerful sexual vitalizer, a cerebrospinal stimulant, prompt and powerful in its action.

Muira puama and damiana, tincture, bougie and suppository, are often of much value, especially muira puama, administered in small doses for a length of time. Its sole property seems to be to augment the strength of the erectile fibres; if its action is well supported by oats and kephalin, it has much merit as a vitalizing remedy. As regards damiana, the article must be good; even then it has a feeble action. It is a drug much depreciated by the manner in which ignorant charlatans have manipulated it.

The animal extracts are of immense utility in aiding a cure of hopeless impotency. Either protonuclein or thyroid extract should be administered in every case, in alternation, week about; they favor evolution and growth of spermatozoa by their producing leukocytosis; in other words, they are the active principle of life.

In alternation with one or other of these two, either c. p. solution of spermin or glycerite of kephalin, or tincture of Scotch oats.

These remedies are true builders of vital elements when once introduced into the alimentary canal; they are bound to generate and augment sexual vigor. They produce a higher type of manhood, rejuvenate, revitalize the sexual centres in the brain and spinal cord. For the present age and its general characteristics these are the remedies for more power, more strength.

The kephalin granules are a most elegant form, suitable for those unable to take liquid preparations.

The large mass of our population are victims of neurasthenia, and especially so among professional men, clerks, merchants, bankers, brokers, ministers and theological students, who suffer from impaired sexual and vital power, and are under the care of some physician, losing time, and taking treatment for some imaginary disease, such as dyspepsia, consumption, constipation, etc., when really their very life and vitality is oozing away, either in the urine or otherwise.

Some of them may have had a gonorrhea imperfectly treated, followed by gleet, stricture, damaged urethra, and the inflammation has been carried back to the seminal ducts, at the neck of the bladder, caused them to be relaxed, lose their tonicity, the semen oozes away, giving rise to impotency.

Stricture of the urethra caused by masturbation, one of the most common of all causes.

Varicocele, the weak, relaxed, dilated veins of the spermatic cord, in itself inherent debility, gives rise to imperfect nutrition and atrophy of the testes; semen becomes thin, watery, infertile; sexual organs wasted, misshapen; sterility ensues.

In such cases the remarkable action of matricaria and kephalin excites a renewal of life, a rapid and perfect restoration of the organs to a natural and healthy condition.

Even cases deemed hopeless, who have gone from one physician to another, without help, have been radically cured by a prolonged course of these two remedies.

Children of masturbators are usually puny, sickly, dwarfed in all the attributes of health; but let a man so circumstanced take matricaria and kephalin, all subsequent children will be healthy and fully developed. This fact alone speaks volumes for the efficacy of the remedies.

The sexual decay of advancing age, blows on the head and back, concussions of modern travel, damage to the testes, the toxins of disease germs, use of tobacco, alcohol, chloral, opium, all dry up the springs of life.

With regard to the failure of sexual power in old men; or past middle life, no man, if he is reasonably careful, should find his sexual power decaying before he is seventy or eighty years of age. But what man has been even reasonably careful? Has there not been some time in life that he has been guilty of some indiscretion which he thought did not injure? But it did: he may have escaped an acute attack, but silently it weakened him.

To those cases of hopeless impotency in the aged we would suggest a course of treatment somewhat different from that which is usually adopted. Instead of rushing to sexual excitants, begin with a course of remedies calculated to promote a growth of spermatozoa, such remedies as ozonized thyroid, protonuclein, the active principle of life, c. p. solution of spermin, kephalin, avena, aided with the best of brain food, freedom from worry or care, daily bathing and massage, together with every possible means to promote a renewal of life, before such sexual excitants as damiana, ambrosia orientalis, muira puama be administered.

Unless there be some grave lesion of the brain and spinal cord, success is likely to attend this change in treatment.

A condition of the sexual organs in which a man is unable to beget his species; it may be because he has either lost his erectile power or his desire or both, or because the spermatozoa is so weakened and degenerated as to have lost its procreative power.

Impotence is becoming common at an early age, either due to excesses, masturbation, spermatorrhea, gonorrhea, and is often accompanied by a train of symptoms incidental to nervous debility. These symptoms may be absent. If spermatozoa be oozing away, impotence may be due to the weakness thus caused.

SPERMATORRHEA ET IMPOTENCY.—The principal causes of these two conditions are masturbation, perversion of the sexual act, self-treatment of gonorrhea, etc.

The effects in all cases are an involuntary loss of semen in the shape of diurnal and nocturnal losses, which naturally attract the attention of the affected individual, for which he seeks help, and if from a physician up to the times, he will prescribe ozonized extract of black willow internally, suppository and bougie.

A great many men suffering from prostration, nerve exhaustion, do not realize that they have loss of semen, simply feeling an invisible trickling, a mere moisture at the orifice of the urethra, a kind of oozing almost of the character of perspiration, or there may be a dribbling and a slight mucous discharge, a mere drop that does escape, which nevertheless gives rise to vital deterioration.

The salix nigra bougie and suppository are the remedies, with matricaria for a tonic.

There is a brain phase of spermatorrhea produced by the loss

of such a vitalizing secretion, and a reflex source of irritation by the act of masturbation—the brain deprived of this secretion becomes anemic, as is visible in the pallor of the face, indistinctness of vision, dilation of pupils, myopia or double vision, deafness, feebleness of voice, mental preoccupation, hebetude of mind, confusion of ideas, aching or tingling sensations in hands, arms, legs, feet. In this cerebral phase of spermatorrhea and impotency all leakages must be completely arrested with the black willow internally and salix nigra for suppository and bougie.

Then matricaria for an all-round tonic, ozonized thyroid extract, and protonuclein daily, with c. p. solution of spermin three times a day.

The best remedies to cure the impotency.

A man suffering from seminal leakages, the product of masturbation, should not marry till perfectly cured; even if his semen be fertile, the offspring will be ever ailing, never healthy, never strong, a blight.

Impotence and spermatorrhea may coexist in the same individual—there may be no other symptoms, simply a failure of the sexual organs to respond when called upon. As to the sites of the morbid processes at work, it is impossible to speak with certainty. Changes in the tubes of the peripheral nerve structures, which supply the erectile muscles, which induce weakness and paralysis, probably due to changes in the posterior spinal ganglia, resulting from exhaustion. In such cases all seminal leakages must be arrested, either by the administration, orally, of black willow extract, or by the salix nigra suppository or bougie.

Then brain builders, reconstructive agents, should be tried and persevered with for a reasonable length of time. Protonuclein to induce leukocytosis and comp. kephalin granules, a true brain food. These remedies are worthy of a trial in every case, as they have proved themselves successful in ninety-six cases out of one hundred.

Excessive loss of semen in young men interferes seriously with the development of the brain and the evolution of the mental faculties. There is much variation in cases, in some mere alienation, and in highly developed nervous organizations delusional insanity. There is a brain phase in every case, indistinctiveness of vision, impairment of hearing, feebleness of voice, mental preoccupation, confusion of ideas; melancholia. Spermatorrhea is invariably complicated by prostatic

enlargement, which keeps the seminal ducts open and weeping. Arrest all seminal weeping with the black willow and its derivatives by prescribing them orally, rectum and urethra, and when thus effecting salutary results, ichthyol and boroglycerid suppository could be used to induce a renewal of life in the prostate.

Follow this up with thyroid extract to repair and equalize the mental disorder, and give the never-failing kephalin granules to repair the wreckage. This is no visionary treatment; it has been thoroughly tested in several insane asylums.

When the world looks blue, nothing in the horizon but despair, kephalin granules are indicated.

INCONTINENCE OF URINE IN THE YOUNG.—Incontinence, or inability to hold the urine, so that it flows or dribbles away during the day or night, is the most common, and may depend on diseases of the kidneys, or gravel, or the uric acid diathesis, or to the presence of urates in the urine: cold; wet; seat-worms; long, contracted foreskin; falls or blows on the back; nervous debility.

In young children it is favored by excessive drinking of fluids during the day; by being put to bed between cold sheets; by lying on the back, a position that causes passive congestion of the lower part of the cord, and very unfavorable for retention of urine, especially when the natural sensibility of the mucous coat of the bladder is increased. It may also be caused by habit, fright, fear or passion. When due to inherent weakness of organization, the difficulty seems to be entirely limited to the nerves of the sphincter muscle, impairing power of contraction.

Treatment.—The treatment is very simple; daily bathing; flannel clothing; to sleep between warm blankets; diet to be of the best and most nutritious kind; bladder to be emptied before retiring to bed, and child instructed to retain it during the day; either the application of a strengthening plaster or, in some cases, a belladonna plaster, over loins or sacrum, and precautions taken to keep the child, if possible, on right side, and have him waked up before the regular hour of retiring to have bladder emptied, and every means resorted to to restore tone and strength to the system. All causes, such as seat-worms, long prepuce, etc., should be removed. First of all, try tincture of iron in alternation with tincture of belladonna. Regulate dose to age; then try sulphate of cinchona in alternation with

wine of ergot; or tincture cinchonia compound and collinsonia. If due to acidity, the malnutrition to be corrected by tonics, changes of diet, open-air exercise, etc.

Incontinence in the aged is generally due to sexual excesses; enlargement or degeneration of prostate; a breaking down of the nervous system; nervous disease, especially affecting lower portion of the cord; to uric acid, or oxalate in urine; stone in the bladder; disease of the walls of the bladder; piles, falling of rectum, stricture of the urethra, vascular tumors of rectum, ovarian or uterine diseases or displacements, pregnancy, coition, hysteria, etc.

If the cause admits of removal get rid of it, and place patient upon alteratives and tonics; inculcate daily shower-baths, good food, flannel clothing, stimulating plasters to loins; if due to sexual excesses and nervous debility, rich phosphatic diet, glycerin of kephalin, or ozone; tincture damiana compound.

Direct medication by means of suppositories has been the most effectual method. The cocain, boroglycerid, thuja, and ichthyol suppositories have effected a complete revolution in the cure of this malady.

INDIGESTION.—Indigestion or dyspepsia is a general term applied to various morbid states of the stomach, in which the natural processes of digestion and assimilation of food are delayed and deranged.

The structure of the stomach may be damaged by irritants, mechanical violence or blood poisons; its mucous coat may be impaired, weakened, relaxed, and, as a result, an excessive secretion of mucus, in which the sarcinæ ventriculi are developed and grow; owing to some brain lesion, as worry, struggle, mental toil, there is an imperfect nerve supply to the organ.

This very naturally divides dyspepsia into three forms:

1. Chronic inflammation of the stomach.
2. Gastric catarrh or mucous dyspepsia.
3. Nervous dyspepsia.

Chronic gastritis is quite a common form of indigestion, caused by irritants, protracted drinking of alcoholic drinks, habitual excess in either eating or drinking, indigestible food, irritating medicines, etc.

Gastric catarrh, with the sarcinæ ventriculi, is usually the result of beer drinking, tobacco chewing, such drugs as bromide potassium, hasty or hurried mastication, excessive use of fluids at meals, adulterated food, baking powders.

The nervous is present in all forms of neurasthenia, wherever there is a poverty of nerve force.

The three forms have certain symptoms in common. Appetite is either deficient, depraved, or ravenous; nausea, or uneasiness after eating; food vomited, acid eructations from fermentation or bitter from admixture with bile; flatulence, eructations of gas, distention of the stomach; cardialgia, or heartburn; pyrosis, or waterbrash; depraved and imperfect digestion, etc., and all forms have a tendency to terminate if not cured in ulceration.

INFECTION.—The spread of disease by the conveyance of deleterious matters (micro-organisms, etc.) by the air, by clothing or by personal contact. To avoid the risk of infection great attention must be paid to the personal health; there should be temperance in all things, cleanliness and good ventilation should be seen to, and, in addition, disinfectants, such as chlorine, sulphur, chloride of lime, formalin, should be exposed to evaporation.

INFLAMMATION.—A state of vital depression of some part of the body; usually caused either by the action of mechanical violence or by some poison, heat or cold, or noxious gases.

When a part is thus vitally depressed there are pain, heat, redness, swelling present—it may be acute, subacute, chronic.

If the vital forces are properly stimulated internally and locally it may terminate in resolution or recovery, but if there be a failure in treatment, not energetic, or not a proper remedy used, or the vital forces of part greatly shattered, then the inflammation may terminate in one or other of the following effects:

1. Effusion of serum.
2. Effusion of blood.
3. Effusion of lymph.
4. The breaking down of lymph or formation of pus.
5. Gangrene, the process of dying.
6. Complete death, mortification.

In every form, location, type of inflammation there is ever present some form of disease germ, the outcome of the degraded tissue which is implicated.

Whatever its type, wherever its location, an effort should be made to stimulate in it a moderate and healthy reaction. For

that purpose cerebral and local stimulation. Keep the action of the heart between sixty-five and seventy-five with either veratrum viride, passiflora, aconite, digitalis, gelsemium. Locally in all cases a stimulating germicide, adapted chemically to the affected tissue, as ozonized turpentine to serous membranes, pleurisy and peritonitis; concentrated ozone over joints, a lotion of echinacea.

If unable to stimulate resolution, then the inflammation will terminate in either:

1. Effusion of Serum—which constitutes dropsy—the best remedies for which are digitalis, strophanthus, elaterin, vapor baths; or

2. Effusion of Blood.—Hemorrhage; rest, styptics, elevation, stimulants, heat; or

3. Effusion of Lymph.—Lotions of ammonia, peroxide of hydrogen, boroglyceride, belladonna; or

4. Formation of Pus.—Hot poultices, free incisions, peroxide of hydrogen; or

5. Gangrene, Process of Dying.—Brandy, peroxide of hydrogen; poultices, charcoal, yeast, capsicum, echinacea; or

6. Mortification.—Complete death.

In every inflammation there are traumatic, thermic and chemical agencies—the evolution of micro-organisms, which give rise to toxins, that originate destructive influences on blood formation, producing an abnormal interaction between vessels and tissues, which is visible in the effusion or exudation of fluid and formed blood elements and in the retrogressive change of the tissues themselves—in the presence of a greater or less number of leukocytes.

INFLUENZA.—Its pathogenic microbe, together with its toxin, the product of bacterial life, when in the body spends its force, like other germs, upon weakened parts, selecting either the respiratory mucous membrane, the gastrointestinal tract, the heart, the nervous system. In all cases the nervous system, the centralization of life, is profoundly affected, as is visible in the pain of the head, back, calves of the legs, delirium, prostration.

A Toxin on the Nervous System.—The incidence of the influenza toxin on the medulla oblongata and great sympathetic, evidenced upon the dyspnea, with the presence of the pneumococcus together with tachy- and brady-cardia. As the poison affects cord or brain, aphasia, eye and auditory changes of in-

fluenzal origin are common. The overcrowding and sewer gases of cities intensify the poison.

In the psychical states of influenza the greatest changes in the nervous system are apparent. (For treatment with concentrated tincture kurchicin see Epidemic Influenza.)

INSANITY.—Any deviation from sanity. It is divided or classified according to the most prominent symptoms, as general insanity, or raving madness; monomania, insane on one thing; dementia, feebleness of mind; moral insanity, continued perversion of certain feelings, affections or impulses, with power of correct reasoning; hypochondria and suicidal and homocidal monomania; insane impulse; irresistible impulse to do some insane and criminal act; nymphomania, insane excitement of the erotic impulse in chlorotic females.

The causes which induce insanity are functional or organic disease of brain, intestinal irritations, apoplexy, epilepsy, fevers, gastric or hepatic disease; meningitis, delirium tremens, a microbe present. Alcoholic conception and masturbation are two factors of immense importance.

Purely mental and moral causes play a comparatively small part in the production of insanity as compared with causes which are bodily and physical. In only 11½ per cent of the cases dealt with, trouble, worry and anxiety or mental shock produced the disease. The remainder of the great mass of the cases are due to causes acting on the brain through the body—drink, faulty development, gross brain disease, strong hereditary predisposition, child-bearing and suchlike causes: and as shown how mental troubles were caused by bodily disease, the recent epidemic of influenza had caused more insanity than all the public and private anxiety in connection with wars. These remarks have a very definite bearing on preventive measures. Without doubt the present generation is apt to coddle its nerves, and also to plume itself on the delicacy of its organization. It is widely held that so great is the influence of worry in the production of nerve disease that those prone to nervous breakdown should be in every way protected from irritating and disturbing influences.

It would aid its prevention if our people could live according to physiological and moral law, arrange suitable marriages and avoid alcoholic conception.

A COMMON CAUSE OF INSANITY.—The disastrous effects of all sexual excesses and masturbation are apparent in sperma-

torrhea, leakages and in an impaired state of the nervous system, as is visible in the neurasthenia, mental incapacity, various nerve disorders which are common among that class of subjects.

In all seminal losses, when excessive, the hebetude of the mind is characterized by a blunting or dulling of the faculty of perception; passing events come and go without being noticed or recorded on the mental tablets, while things of the past are in oblivion. Individuals suffering from seminal losses are ambitionless, have no capacity for work or exercise; have no anxiety for either the present or the future, simple indifference, sublime in its degree, but painful and aggravating; or if they have penetrated deeper, he is irritable and suspicious.

The cause of the various nervous derangements is to be found in a damaged or altered state of the cortical nerve-corpuscles, due to defective nutrition. The specific gravity of the brain structure is much lowered by the nervo-vital fluid being drained off.

Defective brain nutrition is present in all cases of masturbation, sexual excesses, or congress with courtesans; brain substance becomes anemic, soft, pultaceous, while the semen becomes infertile, creamy or watery in substance. Old age, the use of alcohol gives rise to defective brain nutrition, which leads to atrophy, a shrinkage, an induration, congealing or shriveling up with anemia; different altogether is the brain of the masturbator, it is simply mushy. There is no other pathological condition in which we find the same softened, low specific gravity of brain as we find in those in whom seminal losses are the result of abnormal practices, precisely the same condition as is found in the insane.

With our new and improved remedies this peculiar form of defective brain nutrition does not preclude success in treatment; it is capable of cure by removing the cause and providing the brain with proper nutrient, physiological rest, isolation, a complete change of mode of life and habits.

In studying these cases carefully, scanning them to their origin, there is always to be found a congenital nervous instability which is much aggravated by sexual precocity.

One essential point to begin with is the practice of masturbation must be got rid of; all abnormal methods forever suspended.

For this purpose the green root tincture of gelsemium is a most valuable aid; but when given it should be watched; dose

after dose should be administered, so that an erection would be an impossibility. Profound relaxation induced, should be maintained at all hazards. Then the weeping, oozing, leakages completely controlled; for this purpose the ozonized black willow bark extract should be prescribed internally; a suppository and bougie of the same. When these principal points are attended to, the condition of the deteriorated mental organs can be seen to.

The first agent we must give is a rebuilder of brain tissue; a something to aid in the evolution of brain cells; this we find in the thyroid extract a most efficacious remedy.

Thyroid extract daily, if need be, once or twice a week, just as the medical attendant deems proper. The thyroid is the evolver of cell growth in the brain, its action must be promptly aided by the best of diet and the c. p. solution of spermin, the great restorer of vital force. Occasionally cerebrin, kephalin, or the tincture of oats may be added.

This treatment is no theory, but easily demonstrated by living cases which could be enumerated. Let us take the statistics of our insane asylums, 75 per cent of their inmates have been victims of masturbation and spermatorrhea; take our deaf and dumb and feeble-minded homes, their inmates are made idiotic either from the effects of alcohol or masturbation in the parents. Such cases are amenable to thyroid and spermin; cases of epilepsy, chorea and all nervous affections, as well as raving lunacy, yield to the exhibition of those remedies.

The secret of success is in a persistent use of the remedies.

There is a widely prevalent idea that medicine is of very little value in the treatment of insanity. This is far from correct, and is fraught with much harm. To be sure, there are no specifics for this affection. There are, in fact, very few diseases for which materia medica stands ready with a specific to be administered as soon as a diagnosis is made. Were malarial fever and syphilis excluded, there are no other diseases for which any remedy is considered a specific. The specific action even of quinine and saxifraga respectively in these diseases is disputed by some men whose opinions are worthy of attention. By means of careful and scientific research a flood of light has, within the last half century, been thrown upon mental diseases. We now know that insanity is the legitimate result of some pathological condition of the brain—some structural changes have taken place. These changes are often so obscure, and affect the minute cells only, that they present no

microscopical divergence from the normal. In other cases even the most expert microscopist will fail to detect satisfactory conditions to account for the grave disturbances observed in the functions of the brain. The changes may not be in the minute or gross structure of the cells, but only in a disturbance of their normal arrangement. The battery may be in working order, but some of the wires are down. A fuse may be burned out somewhere, and the proper connection cannot be had, or an operator at some station may be out of sorts, and messages are not received or transmitted. An operator may be sick, and prevent messages both in receipt and transmission.

There are so many places and ways in this complicated apparatus which we call the nervous system for abnormal changes to occur that we are amazed that it should ever all be in perfect working order at the same time. Just as in all other diseases and departures from the normal, nature, the, the great repairer, is ever on the alert to keep things in harmony. Sometimes the breakdowns come so fast and are of such a nature that the *vis medicatrix naturae* gets behind—in other words, gets more work on hand than can be done. It is in just such cases, and under just such circumstances, that the physician steps in, and with the proper medicines assists nature to turn the tide from utter ruin and dissolution to health, and once more puts this complex machine in smooth working order.

Since the introduction of animal extracts, especially thyroid and spermin, there is a complete change in the mind of the medical profession as to the curability of very many of the cases of modern insanity.

We see these two extracts effectually curing every case of idiocy and feeblemindedness in which they are prescribed.

There are no diseases that respond more readily to the proper remedies than those of the nervous system. Time in these affections is, perhaps, more valuable than in almost any other class of diseases. They become quickly chronic and incurable. Permanent structural changes take place rapidly, for the reason that the nervous system is more highly organized and more finely tempered than any other part of the human organism. When the battery is exhausted it must be replenished with properly selected and administered nerve tonics. When the conduction is faulty the conducting wires must be looked after and obstructions removed. When too much nervous energy is being produced, more than can be normally utilized, the battery must be weakened by sedatives. When some local

transmitter is disarranged it must be repaired. Physicians are too prone to stand in awe in the contemplation of this complex apparatus when it has slipped a cog and become deranged.

INSOMNIA.—In healthy sleep the person becomes unconscious of the external world; voluntary action ceases, and even the automatic centres for circulation and respiration act less energetically, so that the breathing becomes slow, the pulse quiet, and the vessels tend to dilate. This condition of the vessels has been regarded by some as a cause of sleep rather than its consequence, for the two principles to explain sleep are: first, that it depends upon anemia of the brain, and, secondly, that it is due to an exhausted or inactive condition of the brain-cells. In all probability the truth is that it depends upon the condition of the brain-cells, but this is so much influenced by the circulation that frequently the condition of sleeping or waking will depend entirely upon the cerebral circulation.

The gray substance of the brain is possessed of a great power of reduction, but during life the necessity for oxygen is so great that it retains within it a sufficient quantity of stored-up oxygen to prevent such reduction taking place under ordinary circumstances; but if its functional activity be augmented by stimulation, its store of oxygen is used up, and thus it becomes ready at once to reduce.

Its very activity, however, gives rise to the formation of acid products which lessen its reducing power, so that the mere supply of fresh oxygen would not be sufficient to restore it to its previous condition unless the acid were neutralized.

Arterial blood supplies both these requirements, neutralizing the acid and giving off oxygen to the brain-cells. Thus in some conditions of the brain, simple increase in the supply of arterial blood will restore functional activity and cause wakefulness, while diminished supply will produce sleep. Food induces sleep by dilatation of abdominal vessels. We cannot see the intestinal vessels, but we know that abdominal walls are thin in front, and it is almost certain that external cold will act through the abdominal walls on the intestinal vessels and cause them to contract. Such contraction will also drive the blood to the brain and tend to prevent sleep, but warmth to the abdomen will tend to relax them and induce sleep.

In cases where blood tension is high, as in chronic Bright's disease, we often find troublesome insomnia; whereas in cases of debility with low tension we often find troublesome drowsiness. One condition of the circulation is, therefore, a most im-

portant factor in the production of sleep, but it will, by itself, no more explain completely the insensibility of sleep than it will that of anesthesia.

Sleeplessness, get rid of the cause if possible. Keep bowels regular, stimulate skin with baths and massage. These means failing, resort to medicaments. Give passiflora incarnata the first trial—it stimulates phrenal nutrition. If it fails try croton chloral, which contains more hydrogen than chloral hydrate—it is in fact butyl chloral. Its practical value is the property of diminishing sensibility before producing narcosis. Its action does not last so long as morphia; they, however, operate well combined. In croton chloral we have an instant remedy, more effective in neuralgia than all others. An excellent formula is the following: Croton chloral, gr. ii; sulph. quinine, gr. i; glycerin, q. s. Make a pill. To be taken on the approach of an attack, and repeated every two hours, till relief is obtained. Another excellent formula: Croton chloral, 10 parts; glycerin, 20 parts; distilled water, 130 parts. Shake before using. The dose is half an ounce every five or ten minutes. It is best to begin small so as to avoid producing hypnotism. To procure sleep, 10 to 15 grains. Syrup of croton chloral hydrate is a most reliable and efficacious preparation of the drug. Sulphonal in 30-grain doses affords most refreshing sleep; dissolve in hot water and administer as it cools.

Sleeplessness is due to a variety of causes, such as disease of the brain and blood, the toxins of disease germs, obstructive pulmonary disease, latent gout and rheumatism, reflex irritation, functional and intestinal derangement.

Sleep is essential to health, for during that period intestinal digestion is perfected and the brain regains its vigor or tonicity.

Hypnotics are used for inducing this desideratum.

Sleep to be sleep is accompanied by cerebral anemia and cutaneous vascular dilatation. Any remedy that will produce that is of value; a warm bath increases vascular dilatation, warm liquid food or drink; but beyond and above all massage is of the greatest efficacy, indicated in all possible conditions, invariably effectual when prolonged.

Physicians are too careless, druggists too unscrupulous in prescribing hypnotics; the inexperienced physician prescribes for the symptoms, never looking the case over to ascertain whether there be cerebral degeneration, organic heart disease, urea in the blood.

The ignorant physician prescribes opium or its alkaloids to club the patient into insensibility and calls it sleep, but it too frequently creates a deplorable habit.

One still lower in the scale gives bromide, which often blights the testes or destroys the ovarian bed; or it may be chloral hydrate and bromide of potass, which gives rise to unrecognized heart trouble. He may be a therapeutic nihilist, his judgment perverted; finding some drugs which he has used have but a slight beneficial effect, launches out with some conglomeration.

Invariably danger in hypnotics. They interfere with nutrition and create disease. They should be carefully prescribed and never but under the sacred scrutinous eye of a physician.

IODINE.—A bactericide with a special stimulating action on the glands of the body. It is never administered in its pure state, unless it be in starch or tincture in sweet milk. Its various compounds are of priceless value in the management of microbial affections, as syphilis, etc.

IODIZED HYDROGEN WATER.—Uric acid accumulations. Dose: One ounce thrice daily.

IODIZED IODINE.—Dose: From 5 to 15 drops added to water, of great efficacy in causing the complete annihilation of the bacilli of tubercle and syphilis.

IODOFORM.—The addition of four drops of oil of sassafras to the ounce entirely covers its odor. Dose: Sprinkling on by powder or solution.

IODOL.—As this salt contains 90 per cent of c. p. iodine it is an active germicide. Sprinkled on a chancre it at once changes it to a simple ulcer—great utility in uterine and rectal ulcer, one application being often sufficient to effect a cure; a solution in alcohol and glycerin makes an invaluable lotion in phagedenic sores, carcinomatous ulcers, bed sores, etc., destroys the germs; first application with that the offensive odors disappear. Dose: A powder resembling iodoform, free from its disagreeable odor and toxic property; sprinkle on by powder or solution.

A mixture of iodol and thymol gives us what is termed aristol—iodide of thymol.

Iodol, combined with an equal quantity of boracic acid

and a percentage of negative ozone, makes a snuff, which is of much efficacy in nasal catarrh, being both prophylactic and curative.

Iodol bougies, incorporated in soluble ozonized gelatin, are remarkable absorbents in urethral stricture. The only medicament that has ever been of merited utility in effacing them.

ITCH (*Scabies*).—A disease of the skin associated with the formation of pustules and excoriations, and due to the presence in the skin of a parasite belonging to the mite family called the *Acarus scabici*. The presence of this insect causes intolerable itching, hence the name of "itch" given to the disease. The parasite burrows its way into the skin and deposits its ova in the burrows. It then dies and a pustule forms. If one of the burrows be opened up with a needle and the contents placed under the microscope, the insect is easily seen. The disease is communicable from man to man, and occurs chiefly at the bend of the wrists and between the fingers. From these places it may extend over the whole body, but it never attacks the face.

Treatment.—Hot baths, with the use of soft soap, followed by the rubbing in of sulphur ointment twice daily. Liquor calcis sulphurata is also very useful. The insect may also be killed by means of other parasiticidal ointments, such as carbolic ointment or staphisagria ointment or bathing the body with either oil of bergamot or benzin.

The clothes of a sufferer from itch should be either boiled or exposed to dry heat up to 180 degrees F. Fumigation with sulphur is also recommended.

IZAL.—A distillation of bituminous coal, consisting of oxidized hydrocarbons containing a greater proportion of hydrogen to carbon than the recorded member of the phenol series, and a less proportion than the members of the alcoholic series. It is a non-poisonous, non-corrosive bactericide; one part, diluted in 200 of water, promptly destroys the bacillus coli and the staphylococcus pyrogenes aureus.

Excellent results have attended the use of this non-poisonous body when administered internally in typhoid, dysentery and other specific diseases of the alimentary canal. In surgery, mineral izal has won unqualified praise from those who use it. Proved to be exceedingly valuable in ozena, erysipelas, old abscesses, old sinuses, and fetid bronchitis.

PULMONARY TUBERCULOSIS.—When vaporized in the pa-

tient's room, izal quickly produces a marked improvement. The results are such as to warrant the highest hopes from its use in this fell disease.

JABORANDI.—The dried leaves of the *Pilocarpus pennatifolius* yield an alkaloid, pilocarpin, which when administered produces copious perspiration, a slowing of the heart, a lowering of temperature following its use. It is an antagonist to atropin supposed to be capable of re-establishing the secretion of milk.

Preparations and Doses.—The fluid extract in 10 to 60 drops added to water, and repeated as indicated, is of value in asthma, diabetes, eye affections, or eruptive fevers; whereas pilocarpin operates best in albuminuria, dropsy. One-tenth of a grain to the dose triturated in sugar of milk.

JAMBUL.—The tree, *Syzygium jambolanum,* has been highly praised as a remedy which will arrest the formation of glucose. Destroys the fungus of diabetes. The pulverized root, introduced into capsules, containing 5 grains or more each, is taken immediately after eating.

Not curative, but of great efficacy in saccharine diabetes, a perverted state of the elaborative function in which certain elements which go to make up nutrition—starch and sugar—fail to reach their normal destination in the economy. The direct cause of the disease is impaired functional capacity in the liver and pancreas, the former in its glycogenic relations, the latter a failure of secretion. The primary damage is in the brain near the seat of the eighth pair of nerves, the lack of nutrition and the damaging effects of the sugar upon the tissues, with nerve prostration, are the leading features of the case. Males chiefly affected, together with a few strong-minded women. Specific gravity of the urine is from .1036 to .1065, increased in quantity from six to twelve pints or more in the twenty-four hours.

Jambul will not cure saccharine diabetes, but if five or ten grains be administered after each meal it will correct this perversion of starch into sugar; its use will cause the sugar to disappear in the urine, its specific gravity and quantity will become normal. Still the remedy won't cure, although it ameliorates greatly. A real curative drug in diabetic saccharine is to be found in kephalin or cerebrin.

The microbe or fungus, the evolution of this saccharine condition, is literally extinguished under jambul. Our readers can rely upon its intrinsic value.

JAUNDICE.—A yellowish discoloration of the skin and white of the eye, due to impregnation with the pigments of the bile. Bile pigment is at the same time found in the urine. It is, properly speaking, a symptom and not a disease. Bile is constantly being formed in the liver, and this bile, after performing its duties in the intestines, is continually being absorbed into the blood in the liver, gall-bladder and intestines without causing jaundice. It therefore follows that bile undergoes change in the blood. If any morbid condition upsets the balance between secretion and absorption of bile, or if the bile is unchanged in the blood, the bile circulates with the blood and gives rise to jaundice. Jaundice is therefore due to two chief classes of causes:

1. Excess of bile in the blood.
2. Causes which prevent the bile being changed in the blood.

In the first class are: *a*. Obstruction of the bile-ducts, due either to their being blocked by gall-stones or to changes in the walls of the bile-ducts, as in catarrhal inflammation, or to pressure by tumors, etc., outside the bile-ducts. *b*. Excessive formation of bile in the liver, as in congestion of that organ. *c*. Increased absorption of bile in the intestines, due to constipation. In the second class—viz., causes which prevent the bile being changed in the blood—are included poisons (such as phosphorus, copper, snake-bite, yellow fever and ague), acute atrophy of the liver, brain injury, and strong mental emotion.

Usually persons affected with jaundice are low-spirited and irritable, lose their appetite, and have a slower pulse than natural. Troublesome itching of the skin, without any apparent cause, is also sometimes noticed. A feeling of exhaustion and inability to work exists pretty constantly.

Unless the jaundice is caused by some incurable disease of the liver, or occurs in persons who are enfeebled by sickness or age, the prospects of recovery are favorable. An exception to this may be in cases where it follows mental shock.

In addition to discoloration of the skin and conjunctiva, and bile in the urine, there is a bitter taste in the mouth, digestive disturbance, flatulence, constipation, itching of the skin, debility, emaciation, anemia, languor, depression, and even convulsions, delirium and coma. In addition there are the symptoms which point to the cause of jaundice.

Treatment.—Many cases of jaundice recover without any treatment whatever after an interval of two to fourteen days. Others continue for a longer time, especially when due to disease of the liver.

When the gall-duct is obstructed by a gall-stone or plug of thickened bile, the jaundice will disappear when the obstacle to the flow of bile is removed. A remedy occasionally resorted to at such times is chloride of ammonium, in doses of twenty grains in water every four hours. Nausea and vomiting may be controlled by abstinence from food for a few hours; the use of ice swallowed in small lumps; mustard plasters or hot poulties applied over the stomach, or milk and lime-water in the proportion of one part of lime-water to two, three or four parts of milk.

Daily one dose of periodate aurum with either ozonized chionanthus and phosphate of soda or kolatina every three hours operates well, on which a cure may be effected.

JAUNDICE DUE TO TOXINS OF DISEASE GERMS.—This is but an effect, a symptom, a something which either arrests the flow of bile from the liver or else gives rise to an excessive production of it and its absorption into the blood.

The impediment to the flow of bile may arise from various causes; mechanical, such as pressure, tight lacing, wearing belts, thus pressing the gall-duct, slowing or stopping the passage of the bile, permitting its watery constituents to escape. Bile thus becomes thickened and frequently crystallizes into gall-stones.

The toxins of all disease germs, especially those of syphilis and malaria, alcohol, mercury, together with all insanitary states, as overcrowding, seriously damage the liver, especially its protective function. The working and protective function of the liver is very seriously impaired by these poisons, so much so that its diminished function gives rise to either auto-intoxication or jaundice.

Many other causes might be enumerated, as carbonaceous food, violent mental emotion, exposure to the rays of the sun are capable of producing in the liver very grave changes.

A partial death in the liver very soon gives bile in the blood, quickly manifest by headache, languor, lassitude, depression, disordered digestion; itching and yellowness of skin; yellow conjunctiva; disturbed seeing and hearing; perspiration leaves a yellow or brown stain; urine orange or porter-colored; stools clay-colored; apoplectic symptoms. If due to gall-stones, spasmodic pain in the gall-duct may be looked for.

We now possess valuable remedies which exert a potent effect upon the liver function.

One dose of the Carlsbad salts first in the morning. The powder dissolved in warm water, to be followed by a few grains of the periodate aurum an hour later. During the day teaspoonful doses of simabicidia. An efficient method of treatment.

One or two doses of the phosphate of soda, alternated with either the tincture of lycopodium or sulphur, with matricaria before meals, form an excellent treatment.

If clearly due to the action of the toxins of disease germs, peroxide of hydrogen operates admirably; alternate with fringe tree bark extract.

If there be pain, symptoms indicating gall-stones, push gelsemium and passiflora, and alternate with either nitromuriatic acid or chloride of ammonium. If the nitromuriatic acid be used, give it in this form: Comp. tincture cinchona, simple syrup, of each two ounces; nitromuriatic two drams. Mix. Dose: One teaspoonful every three hours added to a little water. If gall-stones be suspected, adhere closely to the olive-oil treatment for their disintegration.

Many other liver stimulants might be enumerated, but we would caution the profession, both here and in Europe, never to be deceived nor swindled by a class of remedies termed concentrations, for such do not exist. Podophyllin, leptandrin, euonymin, chionanthin, are simply solid extracts in a state of trituration—an American swindle much greater than the German fraud of the coal-tar derivatives.

These remedies are most efficient in the form of a mother tincture, and are often serviceable when the liver function is paralyzed.

JELLIES.—In the present era of new methods of treatment and new remedies none have met with such approval as the excellent procedure of aborting inflammatory action by means of powerful germicides of an anesthetic character; of instantaneously breaking all breaches of continuity and promptly curing all cutaneous diseases by means of medicated jellies. These have been extensively used by progressive physicians for the past twenty years, and their utility has exceeded the anticipations of the most sanguine.

OZONIZED JELLY OF VIOLETS is a local anesthetic, powerful bactericide, which presents strong and special claims for recog-

nition—non-toxic, producing local insensibility wherever applied.

For aborting various inflammations there is no remedy to be compared with it. In the various forms of ophthalmia simply everting the lid and inserting one grain of the jelly twice or thrice daily completely wipes out inflammatory action in a short space of time.

In tonsillitis acute, paint it over all the painful and congested parts, inflammatory action ceases.

In acute and chronic nasal catarrh, in neuroses of the olfactory nerve, due to the inhalation of pollen, aromas, such as is present in hay fever, or asthma, epidemic influenza and kindred conditions, painting the interior of the nostril with it thrice daily, completely eradicates the pathological conditions.

In all cutaneous inflammations, such as erysipelas and burns, simply paint or spread on lint the jelly and apply on the inflamed or denuded surface, when all redness, congestion, pain subside at once.

In cancerous and syphilitic ulceration of the tongue and larynx, thickening, infiltrations, large excavations, patient only able to take liquid food, apply the jelly of violets every three hours, the excrutiating suffering is promptly relieved.

In gastric ulceration, cancerous infiltration, enteritis, one grain in a capsule every three hours will do big work in maintaining a local anesthetic effect upon the nerve ending. It may in those doses be given with impunity on account of its non-toxity.

Very celebrated cancer specialists employ the jelly of violets in the cure of cancer of the tongue or stomach, intestines and rectum, combining it with papoid in all cases, which is a powerful digestive and absorbent. Guard it exceedingly well, as it is a powerful anesthetic, operates well in all cancers, subdues reflex irritability, pain of coughing and swallowing, especially if the tongue, soft palate, larynx, be affected with epithelioma. If necessary the jelly can be dissolved in water and used as a spray in laryngeal cancer, infranasal ulcer, malignant, tubercular ulceration. All pain, tenderness disappear, and a rapid diminution of all odors in the discharge.

It excels all other dressings in phagedenic ulcers and venereal sores.

The Ozonized Resorcin Jelly, a peculiar cutaneous germicide, which next to the jelly of violets occupies the foremost place in the armamentarium of the dermatologist. It is not ex-

actly a new remedy, but by clinical observation and experience new fields have been opened up for its use. It has a most extensive sphere of usefulness, valuable results always attend its internal as well as its local application. It has the peculiar property when applied of exciting an exudative form of inflammation, thereby removing infiltrations, hypertrophies, causes abnormal or adventitious tissue to peel off.

Its indications are numerous and its action effective in psoriasis, acne-rosacea, and even in epitheliomatous patches.

OZONIZED JELLY CHLORATE OF CARBON is principally used as a tooth, gum and tongue preparation; being powerfully antiseptic, it kills the oidium albicans, the leptothrix buccalis, and all the bacteria common in the oral cavity. The method of application is simply to dip the dry brush in the jelly and apply to the desired part, or the jelly can be dissolved in water in sufficient quantity to suit.

Its chief value is its germicide properties, its vitalizing influence on the teeth and gums.

It is a decidedly efficient prophylactic against all diseases of the mouth and throat, such a preparation that should be in very general use, as the early decay of the teeth is very general in all whose vitality is exhausted by overtaxing the nervous system.

JELLY OF ICHTHYOL is useful in pityriasis, ichthyosis, eczema, erysipelas, boils, as well as all vegetable and parasite skin affections, extremely effective in the different forms of tinea.

Clinical observation teaches it to be very efficacious in localized rheumatic pains, both in muscles and joints. Smeared liberally over old muslin and applied. Many physicians use this jelly in burns of the three different degrees.

THYMOL JELLY, used with most benefit in genital eczema, pruritus, as a general antiparasite, it embodies even in weak dilutions strong bactericide properties, but is cooling, soothing, healing, absolutely non-irritating. It can be applied freely, as there is no toxicity, and it affords rapid relief of all pain.

JELLY OF CHRYSAROBIN is of especial value in leprosy, psoriasis, rupia. Before applying this jelly, smear the parts well with ozone ointment, over which apply the jelly.

JELLY PERIODATE AURUM, valuable in syphilis, applied freely, so as to saturate the system. In this way it is utilized in initial sclerosis; good and very effective in condylomata of rectum, scrotum, vulva. When applied they disappear rapidly. Its application affords prompt relief in gouty and rheumatic pains.

Indicated in all syphilitic cutaneous affections, abscesses, carbuncles, indurations.

JELLY OF BOROGLYCERID is an excellent, efficacious germicidal application. Used in cases of superficial injuries, burns, fever sores on lips, nose, angle of the mouth during the winter months. It completely annihilates the oidium albicans on mouth and nipple. Excellent application to old ulcers with indurated edges. One of the best applications in erysipelas.

JELLY OF SALICYLIC ACID is used for thickening of the skin, callosities, corns, keratoid eczema. Has a most decided action in lupus, ichthyosis, acne, sycosis, lichen, in rheumatic synovitis. All grades of strength of which the skin of the patient is tolerant are prescribed, with a decided effect.

JELLY OF ACETATE OF ALUMINUM has met with great success in burns and superficial inflammation of the skin; also in badly-healing ulcers, lupus and malignant excrescences.

JELLY OF CARBOLIC ACID has been utilized as a local application to lumbar portion of the back in initial sclerosis.

JELLY OF FORMALIN, useful in infected wounds, indolent ulcers, chancres, lupus, eczema, boils, erysipelas, carcinomatous excrescences, bites of rabid animals.

KAKI.—Pulverized root of Japanese persimmon. Dose: One to two tablespoonfuls to a half pint of boiling water; when cool, permit patient to drink freely. It is indicated in gastric catarrh, chronic diarrhea, typhoid fever, dysentery, ulceration of the bowels, catarrh of the colon and rectum. Decidedly one of the best remedies ever introduced, as it excites a renewal of life in the various coats of the entire intestinal tract; a sovereign remedy in the diseases enumerated.

KAVA-KAVA.—A plant which grows in Tahiti. The root contains a crystalline principle "kavalin," an essential oil, with resin and starch.

Therapeutic Uses.—It exercises a stimulant and tonic action, like cubebs. It is employed to sterilize the gonococcus and other germs on the mucous membranes. It is also of utility in all catarrhal states of the bladder.

Preparations and Doses.—Fluid extract. Dose: Thirty to 60 drops, and a solid ozonized paste. Indicated as a remedy to destroy the gonococcus of gonorrhea, which it does most effectually and promptly.

A three-grain pill is most eligible.

KEPHALIN (OZONIZED), OR CEREBRIN.—Glycerite. Composition of a hundred parts of this brain fertilizer: Isolated nitrogenous hypophosphite of—

	Parts.
Calcium	6
Sodium	5
Potassium	3
Ammonium	8
Magnesium	3
Iron	4
Hypophosphorous acid with albumen	2
Zoalin (an alkaloidal hypophosphite composed of three parts of blended nitrogen and glycerin with one of hypophosphorous acid)	9
Glycero-hypophosphorous acid	5
Hypophosphorous acid (liberated from its oleonitrogenous association)	5
Chemically pure glycerin	50
Total	100

Formula.—The oxidizable phosphorous element isolated from animal brain and the hypophosphites from the germinal portion of oats, dissolved and isolated by hypophosphorous acid, held in suspension by c. p. glycerin, and then charged with ozone gas.

Indication.—As this is a true brain essence, it is of the greatest efficiency in all nervous diseases, as mental and physical exhaustion, wasting diseases, loss of memory, vertigo, worry, struggle, nervous debility, decay of brain power, premature and otherwise, nervous prostration, neuralgia, loss of vital power, general vital deterioration, sleeplessness, paralysis, white softening, typhoid; effectual and permanent cure in all cases of nerve debility, builds up the brain, restores lost energy, refreshes the nerves, stimulates the sexual appetite and supplies it with nervovital fluid. It thus is a positive cure for seminal weakness, impotency, or loss of power in the generative organs. It is also of great efficacy in leukorrhea, female weakness and change of life. Gives intellectual vigor and vivacity.

Dose: From 20 to 30 drops, added to a little water, thrice daily, either an hour before or immediately after meals.

The compound kephalin granules are composed of the active vitalizing principle cerebrin of ox brain, the phosphates of

cereals, wheat and barley; the avena from Scotch oats; protonuclein and thyroidin—remedies representing the active principle of life, universally celebrated as the best health restorers, brain builders ever introduced to the profession.

They are pre-eminently active in the cure of what has hitherto been termed chronic or incurable nerve disease, such as softening of the brain, paralysis, locomotor ataxia, impotence, impairment of the mental faculties, chorea, etc.

They are of great utility when the nervous system is exhausted, blood poor, appetite and digestion bad; they are simply a food to the brain and nerves; very soothing and exceedingly strengthening; of great efficacy in seminal weakness, physical and mental decay and impotency.

Men who are physically well, but sexually dead, use these granules and become vitalized and productive.

Tired, exhausted nature finds a reliable recuperative in the life-giving, invigorating kephalin granules—a potent strengthener.

All diseases of the brain and nervous system, white softening, paralysis, epilepsy, chorea, loss of memory, loss of appetite, loss of mental power, yield to this remedy, and a keen, highly vitalized condition of every function of the body is the result of their use.

Dose: One only at meals.

Eighty millions of people in these states suffer from a poverty of nerve force. The rapid increase of brain deterioration is inducing a manifold list of nervous maladies which are attracting the attention of scientific minds, who are in diligent search of a remedy by which the lost brain-power and mental energy can be restored. Brain growth is shrinking.

Modern life, with its increased nervous maladies, is but the outcome of depletion of the brain of its most valuable constituent—phosphorus. When this is drained off by masturbation, by sexual excesses, study, worry, struggle, there is no thought, no energy, no ambition, no memory; and just in proportion as this remedy is deficient, the brain-power of the individual is lowered.

Exhausted nature finds a reliable specific, a recuperative, in these granules; a potent strengthener, a powerful tonic to the neuron, a food to the stationary cells of the nerve centres and ganglia, a brain vitalizer, a tissue builder.

In speaking of these kephalin granules one of the greatest discoveries of modern times consists in the isolation of the

active, vitalizing principle cerebrin from ox-brain; the phosphates from wheat and barley; the avena from Scotch oats; protonuclein and thyroidin from the life-forming glands of animals—remedies representing the active principle of life—and their formation into granules, accomplished by the greatest pharmaceutical skill, giving us one of the most celebrated remedies of modern times, a perfect health restorer and brain builder ever introduced to the medical profession.

These granules are pre-eminently active when introduced into the stomach to raise the standard of vital force and to effect a cure of what has hitherto been termed incurable nerve diseases, as softening of the brain, paralysis, locomotor ataxia, impotence; impairment of the mental faculties and the senses.

These granules are chiefly prescribed by highly-scientific physicians, gentlemen of great culture and skill, and sold only by the leading druggists of Europe and America.

In order to give our readers an idea of the estimation in which these granules are held by the medical profession, we quote the following items from various leading journals:

The glycerite of kephalin ozonized, being the natural phosphate of ox-brain, barley, oats, wheat, is a true nervovital essence, and can be administered in all cases of impotency with the best success.

Neurasthenia, poverty of nerve force, cerebral anemia, or softening, or paralysis, and other states of nervous shock, are too frequently the result of excesses, and thus by draining off the cerebral essence, leave that organ in a state termed starved.

A brain in that state soon has its typical fissures of thought obliterated, and granular deposits appear on the arachnoid; adhesion of its membranes to the surface of the convolutions; crystalline granulations in the lining membrane of the ventricles, with an unusual amount of fluid in the sac of the arachnoid. Besides, a tissue-starved brain gives rise to inflammation of the cortical portion, terminating in degeneration of the nerve cells of the hemispheres, and these changes give rise to structural change in the organic cell.

The brain of man, his brilliancy of thought, his energy, his force of character, are due to the quantity of phosphorus contained in the cerebrum. If this is economized it might sustain him to a good old age in full genital vigor, but let overwork or excess drain it off, health fails, the vital forces can supply no more; then unless kephalin or oats can be administered, de-

generative changes will take place in the gray matter of the brain and spinal cord, simply because the phosphorus in the brain is exhausted.

Brainworkers, mechanics, professional men, the libertine in his excesses, feel this in their languor, want of energy, victims of excessive brain exhaustion. Nothing can invalidate the assertion that unless our present race obtain more phosphorus, impotency will prevail.

Kephalin is an excellent brain food, a reconstructor of shattered nerve force, refreshing to the nerves, repairs lost sexual power. Kephalin gives intellectual capacity, a higher stratum of life.

It is a stimulant to the molecular growth of the brain, with a special action on the lymphatics and pink marrow and other blood-forming and blood-raising glands, and above all an active energizer of the seat of the sexual power in the brain, the results of which have astonished the civilized world.

It is prepared as follows: A sufficient quantity of Scotch oats, very coarsely ground, is covered with distilled water and kept at a temperature over 80 degrees F. until it ferments. When this is perfect the mass is thoroughly macerated with alcohol and ozone, is transferred to glass percolators, and after permitting it to rest for seven days, percolation is commenced and continued until the last grain of avena has passed.

Prepared in this manner and from the best quality of Scotch oats, it contains a very high percentage of avena, is highly acid and of a nutmeg-brown color. Of all cereals Scotch oats yield the largest amount of phosphates.

No other manufacturer claims this, the only true method of preparation, to isolate every particle of the brain pabulum; there are no imitators, all other preparations made by various firms are utterly worthless.

Avenin, the active or alkaloidal principle of the ozonized tincture of Scotch oats, is a great brain builder, a nerve tonic, fertilizer and restorer of wasted nervous energy. Avenin is one of the best pabulums that can be introduced into the human body for the proper nutrition of the nervous system and the creation of a higher type of manhood—a vitalizing agent to every organ in the body.

It enters largely into the composition of the compound kephalin granules, which are of such wonderful efficacy in all derangements of the nervous system, such as softening of the brain and paralysis, loss of sexual power, impaired memory, dyspepsia, epilepsy, chorea.

Very many, if not nearly all the maladies of the present age, are caused by a depletion of the brain of its most vital constituent, phosphorus; when this is deficient, drained by masturbation, sexual excesses, struggle, study, worry, there is no thought, no ambition, no energy, no memory, and just in proportion as this element is lacking, so is the brain-power of the individual deficient. Certain it is that phosphorus enters into every tissue of the body, and its absence or presence in normal quantities regulates the standard of health. Its presence in due proportion excites thought, capacity and brilliancy of intellect, power of invention, the rise of human progress in making the very elements subservient to our use.

Man, races, nations are modified, influenced by the character of their food. People who use starchy food are mere imbeciles, whereas those who consume largely of phosphatic food are remarkable for the possession of large brains and great intellectual development.

Our present state of civilization, with its ceaseless activities and endless strain, cannot be maintained upon ordinary food, for it cannot keep up the nutrition of the brain of individuals whose labor is chiefly mental. Hence the nervous system of the great mass of our people is literally starved. Feed the brain with kephalin or kephalin granules, and a very large proportion of our present diseases would disappear.

The initial step to cerebral starvation is a deficiency of phosphates in our food. This paucity of primary elements impairs the springs of life, deteriorates all the senses and faculties; but none becomes so thoroughly bankrupt as the sexual sense—that which presides over the evolution of the spermatozoa. With a starved brain, cerebral anemia from any cause, the evolution of the spermatozoa goes on sluggishly, feebly; besides, they become infertile, few, dwarfed, misshapen.

Let the brain be adequately nourished, vital force vigorous, whether by brain food or that great vital constructor, kephalin, the spermatozoa become numerous, active, fertile and well developed and the fissures of thought deepened—the entire nervous system rejuvenated.

KIDNEYS, DISEASES OF THE.—The kidneys are liable to a large number of diseases, all of which are more or less grave, and not infrequently fatal. There are two classes of diseases: 1. Those due to local causes, such as injury, calculus and diseases of the bladder, prostate, and urethra. Retention

of urine after a time leads to dilatation of the ureter and kidney, and the latter becomes atrophied or inflamed. 2. Those due to constitutional diseases, such as cancer of the kidney, tubercle or scrofula of the kidney, Bright's disease, hydatids of the kidney, etc.

Inflammation of the kidney is caused by damp, cold, alcohol, scarlet fever, etc. Symptoms of inflamed kidney are pain in the back, groin, and down into the testes, alterations in the secretion of urine, fever, vomiting, a hard pulse, and ultimately, if the disease becomes chronic, changes in the arteries, eye, brain, apoplexy, paralysis, etc., so that the whole system is affected.

Treatment.—Locally, cupping, warm fomentations; purgatives, warmth, etc.

Ozonized tincture green root of gelsemium is of remarkable value in inflammation of the kidneys; combine it with passiflora incarnata.

The kidneys are the organs for the elimination of waste products and toxins of disease germs. So long as they are not organically diseased, many, very many maladies admit of cure. There is no affection so productive of kidney irritation as the uric acid diathesis, which is the prevailing malady of civilized man.

Uric acid kidneys admit of easy recognition both by chemical tests and the microscope, and its persistent presence, together with the languor, inertia, headache, constipation. There are many remedies which, if judiciously administered, such as the ozonized uric acid solvent, which will flush the kidneys and free them from the ashes of tissue, the uric acid crystals, but the action of this remedy must be aided, strengthened by a dietary which will agree with and nourish the patient, yet put as little strain as possible on the kidneys. Meat should be eaten but once a day, and preferably at noon. If the system demands albuminous food, milk and eggs may be used in addition. We cannot say too much in favor of fruit—especially the fruit breakfast—as a corrective and alterative to the blood and digestive juices.

Eating to repletion is always injurious to those who have weak kidneys, and is usually followed by a run on those organs. Stop just short of satisfying appetite at each meal, and receive the reward of keen assimilative powers and unobstructed circulation.

A slowing and weakening of the circulation precedes that torpid condition of the kidneys which results in imperfect elimi-

nation, gradual atrophy of the renal epithelium and contraction of the organ.

To keep up the circulation, regular, moderate, light exercise must be insisted on. Baths, massage, and skin friction are invaluable, both as nerve tonics and measures to keep the glandular system in good condition.

Fresh air and sunshine deserve more than passing notice. Sunshine softens up hard flesh and renews vitality, while fresh air tones sensitive nerves and purifies the stagnant blood. The early morning hours are best for sunning and airing, except in damp, malarious regions. For the greater part of the year the windows of the bedroom may be left open all night, the bed being carefully screened from draughts and furnished with abundant clothing. This, alone, will often banish the insomnia so frequent in kidney disease.

KIDNEY, ACHING.—This is very common in women after abortion from a lift or strain. One or both kidneys may be the seat of the ache. The pain is heavy, wearying, deep in the side over the region of the kidney, or in the kidney itself. The pain in some cases is boring like a nail. There is often associated with this pain a corresponding ache in the limb of the affected side; it is also frequently accompanied with irritable bladder. It is most common about the monthly periods, but has nothing to do with painful menstruation, but is more likely to take place after delivery or abortion. The left kidney is more frequently the seat of ache than the right; in very rare cases can eithr a tenderness or fullness be detected. The case is essentially one of debility, and requires rest and tonics, as uva ursi and tincture of iron, capsicum, or other stimulating applications. Albuminuria may exist in the urine, with aching kidney, and if it does it is likely to give rise to the death of the fetus and abortion.

The ozonized wine of aletris farinosa internally for a few months, with the ozonized pastils, gives the patient prompt relief from her sufferings; general tonic course, it yields to treatment.

KLEPTOMANIA.—A peculiar mental disorder, common about, at, and during the change of life in women, owing to the brain being deprived of the ovarian secretion; simply either a manifestation of degeneracy, or a morbid manifestation of certain neuroses and psychoses. The will centre is diseased, hence a manifestation of viciousness and feeble morality. Even

very wealthy kleptomaniacs desire to steal, but they must never be regarded as thieves.

Isolation, solitary confinement is helpful, weakens their mental calibre more; change of scene, cheerful society, are good remedials for a diseased mind. Massage, rest, a limited seclusion, overfeeding are good elements to begin with and to hold to, with a judicious medicinal course.

Our best remedies are passiflora incarnata; glycerite of kephalin; avena sativa; c. p. solution of spermin; protonuclein.

KOLA.—The seeds or nuts of *Sterculia acuminata,* growing in West Africa.

The physiological and therapeutical actions are almost identical with the coca leaves. They are said to appease the appetite or craving for drink, for food, give great endurance, and are a tonic to the digestive tract, and increase the activity of the peristaltic crave, hence the great utility in habitual constipation and heart failure.

Chemistry.—They contain caffein, theobromin, starch, glucose, and a volatile oil.

Preparations and Doses.—The nuts are digested in glycerin, with tamarinds made into a paste, then made into lozenges; of great utility in constipation. Fluid extract and other preparations identical with coca.

Dose: As a vital constructor to shattered nerve force, take a piece the size of an ordinary pea thrice daily; as a laxative, a half a teaspoonful on retiring to bed. This great vital constructor is of special utility in neurasthenia or poverty of nerve force, nerve tire, worry, headache, depression, nausea, loss of appetite, liver torpor, piles, great despondency, insomnia, palpitation of heart, intercostal neuralgia, depraved secretions.

Tired business men; strained, overworked, exhausted clergymen; weak, nervous, debilitated ladies; puny, ill-grown or tissue-starved children, should use this paste. Its daily use cheats the grave of its premature victim.

It has a specific effect in depriving the victim of the alcohol, morphia or chloral habits of the appetite for those stimulants.

KOLA-NUT (in lozenge form).—Dose: A half of one every evening. This remedy forms a palatable and efficient method of administering the drug for constipation; an invaluable remedy in all morbid states characterized by inertia of the liver and bowels.

KOLATINA TABLETS.—Five grains each prepared from a glucoside extracted from the nuts, an admirable remedy in all sluggish states of the liver.

KOUSSIN.—The active principle of the female flowers of *Brayera anthelmintica* has been quite extensively tested as a remedy for tapeworm.

Preparations.—Koussin 10 to 20 grains for adults; 2 to 5 grains for children.

KRAMERIA, commonly known as rhatany root, is used in medicine as an astringent and tonic. The preparations used are the infusion, dose 1 to 2 fluidounces; the tincture, dose ½ to 2 fluidrams; the extract, dose 5 to 20 grains. Mixed with equal parts of orris root and charcoal, it makes a good tooth powder. But, better still, incorporated in butter of coca, in the form of a suppository, it gives us a medicament that promptly cures prolapsus of the lower bowel and all anal fissures. The extract is generally used.

KURCHICIN (*Hindoo Bitters*).—Is a pure bitter, antiseptic, vegetable tonic, delicious to the taste, of surpassing excellence, with a very wide range of action, unexcelled in its invigorating properties; an efficient appetizer and liver stimulant: highly ozonized; always acting promptly and energetically.

It positively cures all forms of indigestion, with its collateral symptoms of headache, sour eructations, heartburn, melancholia; rouses up the torpid, sluggish liver; relieves constipation; eradicates piles; and as it takes away all desire for stimulants, it is a perfect antidote to the alcohol, opium and chloral habits. It is a great blood fertilizer; imparts great strength and vigor to the nervous system; overcomes prostration and feebleness; soothes irritability, promotes refreshing sleep, gives fresh energy and affords inexpressible comfort. We give a few general directions for its use.

Medium dose as a general tonic. One tablespoonful before meals strengthens, invigorates and vitalizes the whole body.

For chills and fever. When the blood is loaded with the malarial germ, the brain poisoned, the intellectual faculties blunted, all the great secreting and blood-forming glands clogged, skin sallow, exhaustion, cold hands and feet, weariness, pains all over, loss of strength, no energy, no ambition, with periodic fever, then the patient should take one table-

spoonful every hour during the interval of the fever, continuing this way and at less frequent intervals till it is broken up; then subsequently for three times a day for twenty-eight days. To prevent chills, a tablespoonful morning and night.

As a special tonic. One tablespoonful before meals creates an appetite, builds up, imparts tone and vivacity to the nerve centres; aids in the formation of red blood. Besides it gives immediate relief in colic, cholera, prostration, etc.

For general debility. A small quantity added to a little wine at stated intervals. If added to a little whisky or brandy, it prevents them from congealing the nerves, and restores their normal action if paralyzed by that poison.

It is a most invaluable remedy to the man of temperance, as by its daily use he can have the aid of a potent vivifier, renewer and vitalizer, without the deleterious effects of alcohol. It should be in every house for emergencies.

The concentrated tincture, highly ozonized, is of immense utility in the quotidian, tertian and quartan types of malarial fever, as it destroys the micro-organisms which give rise to that class of pernicious fevers. So definite and potent is its action that after the first dose the odoriferous character of the dead germs can be detected in the sweat, saliva, urine. The bowels must be opened; all fluids strictly forbidden either with the remedy or for several hours subsequently, or between doses, as watery fluids supply a pabulum to germ evolution in the blood. The remedy causes the malarial germ to disappear from the blood and tissues. It is valuable in small doses in all fevers or states of debility. It has demonstrated itself an invaluable remedy in epidemic influenza. It changes the electrical forces of the body from a negative to a positive state. Dose: One or two teaspoonfuls; superior to quinine in intermittent fever three hours before the chill; the same ten minutes before the cold stage.

LABOR.—Six weeks or two months before the termination of pregnancy, it is expedient for the coming mother to take a dose of castor oil once or twice a week, not so much for a free unloading of the bowels as to get up a good secretion of milk; for there is no drug like the oil for this purpose. It is also a good plan to let the patient take some remedy to strengthen the womb for its approaching work. There are three good preparations for this purpose, namely: the mother's cordial, the viburnum compound, and the fluid extract of stylosanthes; either of these, the one alternately with the other. The latter-

mentioned remedy is a most marvelous one in rendering labor easy; relieves the distress; gets away with false pains; is a valuable parturient, rendering the first stage of labor short and almost painless. It is an invaluable drug to all child-bearing women. As we have already stated, it should be commenced six or eight weeks before the expected crisis.

Labor may be defined to be the expulsive efforts of the uterus and mother in evacuating the contents of the uterus, the fetus being a mere passive body. Mental excitement or impressions may excite or suspend labor, but cannot prevent it.

Symptoms of labor may be briefly enumerated: When the fortieth week has expired, there is likely to be some nervous depression, which is manifested by a rigor or chill of more or less intensity; a frequent inclination to make water, or else a suppression of it, bearing-down; subsidence of the abdominal tumor; secretion of mucus, often streaked with blood, called the show; aching in the hips or thighs; sometimes cramps, and a dilatable condition of the mouth of the womb, with alternate contractions, accompanied with pain. In some cases the pains are false or spurious. They are said to be such when the mouth of the uterus remains unaffected by them. These pains in some ladies are apt to come on several days before the genuine, and are apt to worry or annoy the patient; and in all cases in which you are satisfied that they are false, they should be stopped by an injection of starch and laudanum into the rectum.

True pains are produced by contraction and drawing up of the womb, which first expels the slimy matter, mixed with blood, called a "show." As soon as this appears, the mouth of the womb at each pain begins to open and widen itself, so as to permit the contents of the womb to pass.

When labor begins, the mouth of the womb is opened by the longitudinal fibres which are opposed to the circular.

Labor is very correctly divided into three stages: the *first* is the period of dilating of the mouth of womb sufficient to let the head of the child pass, and occupies more than two-thirds of the time of a labor; the *second* is the expulsion of the child from the uterus, and occupies much less than a third; and the *third* stage is a complete expulsion of the membranes and placenta.

The first pains are short, come on at long intervals; the patient is restless under them, first hot, then cold, and not infrequently sick at the stomach. She may be griped, belches wind, or passes it from the bowels, which should not be restrained by

false delicacy. By and by pain passes to the back and then to the bottom of the belly, and there is usually a desire to urinate or to go to stools, calls that are to be obeyed, never neglected. Just at this time she is likely to become fretful, uneasy, and may ask for something to hurry up the pains; but be patient, wait a little, don't force nature to premature efforts; let her rest while nature rallies, and the womb gradually opens.

The duties of the nurse, midwife, or physician, if the presentation is all right, consists in aiding, if needed, giving consolation and encouragement; warm drinks; watching the case carefully and closely, and rendering assistance when necessary.

During the First Stage: At this stage, it is unnecessary for the patient to go to bed, only once in a while, for examination. She is better, during the greater part of the first stage, moving gently about the bedroom, and when a pain comes on, be in a position to get hold of something. During such pains a doubled up position, either sitting on a low stool or kneeling, answers well. When this first stage is nearly over—that is, dilating the neck of the womb completed, the patient must go to bed. The best position for American women is the left side, near the foot of the bed, so that she can fix her feet firmly against the bed post; her hips from ten to twenty-four inches from the edge of the bed. If attendants are few she could have a sheet attached to the bedpost, so she could hold on to something from below; her legs bent, a pillow between her knees, and her head also supported by a pillow. The bed for about a yard and a half square should be protected with a gum or oil-cloth spread, and two or three quilts doubled up over the same, so as to take up the discharge. Irish or German women, with straight sacrums, do fully as well on their backs, or even on their knees, in the bed, or on the floor, until they are well over and into the second stage. Once it is ascertained that the presentation is a good one, it is unnecessary to annoy her by repeated examinations.

All examinations should be made during a pain, and continued when the pain is off. If the pains are good, efficient, and the mouth of the womb well dilated, parts well lubricated and the membranes seem to act as a retarding element, they can be ruptured by roughening the nail of the index finger; but if they do not seem to retard the labor, they may be let alone, until they almost protrude externally, as they act as a good dilator.

The bag of waters differs in size in different cases, according

to the amount of water present, and is, always, large or small, a good dilating body, continuing to force open and widen the mouth of the womb, until it is open sufficiently to permit the head of the child to pass. It also distends or dilates the vagina.

In some cases, ladies, by excessive or violent movements, cause a rupture of the membranes, a week or more before labor; then labor is dry, and is not nearly so easy; in other cases of sudden or hurried labor, the membranes, water, child, and after-birth are expelled in a mass, then the child is said to be born with a *caul*. When they burst at the proper time the pains continue, and the child gradually enters the world. If the mouth of the womb is dry and rigid, so that the pains are inefficient and the first stage prolonged, this rigidity must be overcome in various ways,—enemata of tepid water and lobelia into the rectum, steaming the vulva, perineum, and anus, by causing the patient to sit on a chamber partially filled with boiling water in which a plug of tobacco has been cut up; or by smearing the rigid mouth with belladonna ointment, or introducing a pastil of belladonna and opium into the vagina; and if it does not yield, these means may be repeated, or they can all be used. A decided nausea has an excellent effect.

When the head is emerging under the arch of the pubes, the perineum should be suported with the palm of the left hand, and retained there till the head is free from the vulva.

If the perineum is tough, rigid, not easily distended, and thus obstructs the exit of the head, it may be well oiled, and hot towels—as hot as can be borne—applied, one after the other, so as to relax it. If this is unavailing, wring the towels out of hot lobelia or tobacco-water.

When the head has made its exit, do not pull or drag it, but simply hold it in the hand until the next pain, and, when it occurs, have the patient hold her breath well and bear down, when the body will be expelled. Indeed, all through the case the patient must exercise great fortitude, patience, and forbearance; be quiet and docile, and on no account must she throw up her arms, stretch herself, or let go her breath in the middle of a good bearing-down pain or effort. Some ladies are remarkably sensitive, and the greatest delicacy and kindness should be observed towards her in all things. Her person must not be exposed. There is little use in the horrid custom of some physicians, inserting their hand up the vagina in the form of a cone, and holding it there. Such a practice is uncalled for; more good can be obtained by gently rubbing her abdomen

with oil. The fantastic manœuvres of self-conceited, ignorant physicians in wearing towels on their arms, sleeves; putting on aprons, as if it was a butcher shop, and such like, are revolting to the sensibilities of a refined lady. Such scoundrels should be kicked out.

Cool, firm determination, a cheerful disposition, with the use of warm stimulating drinks, are of more utility than a lot of humbug. We must guard against too sudden a delivery, with membranes, water, and after-birth altogether, as that is very apt to be followed by hemorrhage. After the delivery of the child, lay it on the right side, remove any mucus from its mouth, and give it a very gentle beat on the back with the open hand. Usually this is sufficient to establish respiration; if not, artificial respiration, or otherwise, should be restored to—(see *Asphyxia*). Respiration may be suspended for over forty minutes, and resuscitation may take place; so our efforts should continue as long.

As soon as the child cries lustily, and there is evidence of a proper supply of arterial blood, that is the time to ligate the cord, applying the first ligature from three-fourths to one inch from the belly, the other one two inches further on, and then dividing or cutting it between the two. As soon as this is done, wrap or roll up the child in a blanket, and hand it to the nurse: then attend to the mother, and the removal of the after-birth. On placing your hand over the abdomen, you will find the uterus either contracted or relaxed. If contracted, the after-birth may be in the vagina, and a cough, or sneeze, or blowing with some force into the palms of both hands, or a gentle bearing-down effort, or slight traction on the cord, may cause it to come away. As soon as it approaches the vulva, it should be grasped and twisted round several times, so as to twist the membranes, and have them come easily and entirely away.

If the uterus is relaxed, and after-birth attached, resort to frictions with oil over the abdomen, so as to cause contraction: allow a little rest till the vital forces rally. Administer a little capsicum in warm sweet milk, or a little quinine, or a little hot punch, so as to establish permanent tonic contraction of the uterus. If there is retention of the after-birth after tonic contractions have taken place, use friction, shampooing, dry heat to the abdomen, enemata of tepid water into the rectum, and administer stimulants. These means failing, after waiting perhaps one or two hours, introduce the hand in the form of a cone—the back of it well oiled—into the cavity of the uterus,

and gently grasp the placenta, or after-birth. It is very probable that the presence of the hand will cause such violent contractions, with expulsive pains, as to cause it to be thrown off. If not, detach it carefully, and leave no portion behind; wait until a pain comes, when withdraw the hand in harmony with the bearing-down effort. This is best effected with the patient on her back, knees drawn up—and I will repeat, let it be done with great kindness and gentleness. After it is removed, the patient should be carefully bandaged, from the middle of the thighs to the bottom of the sternum, with a thin compress over the uterus. In applying this bandage, it should be pinned from below up; a pin every inch, and free from all wrinkles. Then a dry, warm diaper should be pressed against the vulva. This, or a similar bandage, should be applied daily, and seen to by the physician or nurse for ten days, and it should be worn for as least two or three months. On the reapplication of the bandage, it is well to sponge the abdomen with a little hartshorn and tepid water; dry off well, and then use either bay rum or cologne-water. By this means all the cracks, fissures, crevices, of the abdomen are avoided; also enlarged or pendulous abdomen. A woman can be well preserved if due care is taken of her, even after she has had a dozen children.

After the bandage is applied, the patient should be moved up to her proper place in bed, and a doubled quilt placed underneath her. The use of the bandage after delivery has many advantages. Besides maintaining the natural condition of the abdomen, *it* stimulates the uterus to contraction, and thus prevents hemorrhage; *it* rests the broad ligaments, and gives support, and prevents falling of the womb; *it* is, besides, a great safeguard and comfort to the woman, and on no account can it be dispensed with. Always pin from below up, firm at first, but always easier as you progress upwards.

If there is any disposition to hemorrhage, in addition to the roller put the child to the breast at once, or as soon as possible after the mother has rested. The first cathartic should be given after the mother has had a sleep; and it should be oil, on account of its influence in secreting milk. All through, during and after labor, the bladder should be carefully watched, especially if there is any retention of urine.

The diet of the mother, if not very feeble, should, for about nine days, consist of plain oatmeal, gruel, sago, arrowroot, rice, tea and toast, beef-tea. As a rule, beef, mutton, chicken, game, or high-seasoned food, or stimulants, should be avoided; but

after the ninth day, a generous and nutritious diet may be allowed, even as liberal as the patient may desire, avoiding all indigestible articles, as veal, pork, salt meat and fish, pie-paste, cabbage, etc.

The discharge that comes, or takes place from the uterus after delivery, is called the *lochia,* or cleansing, and should continue from two to three weeks; if longer than three or four, means should be taken to tone up the uterus by port wine and Peruvian bark, mother's cordial. If it should suddenly cease inside of the first two weeks, measures should be taken to re-establish it.

The most common causes that are likely to cause its arrest are cold, cold drinks, ice; sudden mental emotion, or excitement, or worry, or passion.

To cause its reappearance, try heat to the vulva, over the uterus, and to the feet, with infusion of catnip, and a few drops of the tincture of aconite. If that fails, try serpentaria compound, in half-teaspoonful doses, in some warm tea, and administer enemata or flaxseed tea, with laudanum. If that fails let patient drink linseed tea, warm, with tincture of snake-root. If the stoppage or arrest of the lochia takes place inside of the first ten days, we may entertain apprehension of its absorption into the blood, and puerperal fever; later than that it is not likely to be attended with such grave results. The prevention of its disappearance, by keeping the patient quiet, free from all care or anxiety, by a strict avoidance of all cold drinks, and inculcating other elements of comfort, which are of great consequence, will almost infallibly ward off this complication.

The uterus may, if ergot or forcing-powders are being administered, contract on the after-birth, the mouth and neck close, and the lochia cease. This is a bad state of affairs, induced by the action of this drug, to whose use many mothers' lives have been sacrificed. The ergot stimulates the lower portion of the spinal cord, and thus contracts the entire uterus, neck and all, besides rendering the blood clotty.

If this should occur, administer opium freely to relax the neck and mouth of the uterus; throw up tepid water enemata into both vagina and rectum; scorching hot pillows to the loins; heat over uterus. If not successful in getting the fingers in after it, try inhalation of a few drops of chloroform on a towel—not enough to cause anesthesia, because the blood is thick and heart feeble. If not successful then, try a warm ene-

ma of lobelia, and administer lobelia in small doses, not enough to vomit but to nauseate well, and then try to remove it. This failing, try belladonna and opium pastils and suppositories; they not successful, inject the uterus with a strong infusion of chamomile flowers and borax. That failing, leave a catheter in the uterus for a few hours, well up to the fundus, so as to try and originate the pains or contractions. If all means fail in this crisis then inject the uterus thrice daily with a tepid injection of water and permanganate potassa, and see that it all escapes; and keep the patient under opium.

Very many complications are liable to arise, under the old treatment, which if the labor were rendered painless would never occur. Indeed, this great desideratum of the present age can be effected as follows: When labor has set in smear the lumbar portion of the back and the entire abdomen with concentrated ozone. Wash hands carefully and insert two obstetric cones into the rectum and two into the vagina, the latter are to be well pushed up against the os uteri. In twenty minutes repeat again, and again, if necessary.

These cones produce anesthesia of the lumbar and uterine nerves, of the mucous membrane of the neck of the uterus and vagina, the most perfect dilatation of the neck of the uterus is induced, uterine contraction energized and equalized. All tension is relieved, labor is painless and terminates promptly. No complication has ever occurred, when these cones are prescribed. *No* tedious labor, *no* hour-glass contraction, *no* absorption of lochial products, *no* puerperal fever; never hemorrhage.

For after-pains they are unexcelled. They relieve all reflex excitability of the vaginal orifice.

RETENTION OF THE PLACENTA is a grave affection, there being great danger of blood-poisoning, metroperitonitis and puerperal fever. It may be remarked that, as a class, our women do not bear injections into the uterus well, and they in themselves are dangerous from the injection finding its way into the uterine sinuses, thence into the blood, and causing death by producing acute, fatty degeneration of the liver.

Every resource must be brought to bear on the case; if one or two fingers can be inserted there is no trouble, aided by the lobelia and belladonna, both by vagina and rectum, and internally.

HOUR-GLASS CONTRACTION of the uterus and retention of the after-birth are also quite common, and in a great measure are

due to the use of ergot in labor. Hour-glass contraction is a condition in which some nerve that supplies the middle of the uterus is weak, and where it receives an undue amount of stimulation or irritation from the cord, irritated by ergot, which causes it to contract in the centre with the after-birth in its upper half. This is not so grave an affection as the contraction of the os and neck, because when the system is well-relaxed with lobelia enemata and internally, if necessary, it readily yields, and by gentle manipulation, one finger and then another can be inserted, until the whole hand gets through the obstruction, and siezes the after-birth and withdraws it. Treat same as *Retention*.

Can it be wondered at that we have so many complications of labor, when so much ergot, or forcing-powders are given? Our women, the best nurses in the world, are spoiled, their milk rendered scanty, insufficient, or none at all, by the system of senseless drugging during labor. It is not the women, but the utter incapacity of the physician that is at fault. Even the infinitesimal pellets contain enough of ergotin and atropin to give rise to untold trouble.

The breath, or the feet, knees, buttocks, are regarded as natural, and are next in frequency to the head, but they are not such good points for dilatation; consequently, the labor is very slow or prolonged, and even when the feet, knees, buttocks and body are expelled there is danger to the child, if the head is not delivered, by pressure upon the cord. If flooding should take place during natural labor, enjoin rest, horizontal position, and a plug. If these means fail, endeavor to excite uterine contractions with quinine, capsicum, corn-smut, mistletoe. If still persistent, and the os uteri dilatable, rupture the membranes and introduce the hand into the cavity of the uterus, seize the feet and bring them down with their toes pointing to either thigh of the mother, so as to bring the long diameter of the head into the long diameter of the pelvis.

In convulsions during natural labor, if the mouth of the womb is rigid, administer opium and lobelia, by the mouth and by enemata; if they recur, inhalation of chloroform; and as soon as the mouth is dilated sufficiently to admit the hand, insert it, seize the feet, and bring down, with the toes pointing to either thigh; and deliver under chloroform and hypodermic injection of morphia.

If fainting fits should occur, and they are due to debility, or some peculiarity of the nervous system, diffusible stimulants

with quinine should be given; but if they are due to internal hemorrhage (concealed), turn and deliver.

If there is a rupture, and danger of strangulation, and the mouth of the womb is dilatable, turn and deliver.

In some cases the after-birth, instead of being located at the fundus, is implanted right over the mouth of the uterus. If an attendant in the family, the mother generally calls attention to it as early as the fourth month, by a dribbling or oozing of blood, which increases in frequency and quantity as the neck of the womb merges into the body during the later months, and at full time it is quite considerable. On making an examination with the finger, a soft, spongy mass can be detected over the mouth of the womb. In all such cases it is well to have another physician in attendance besides the regular one, not for aid, but to share the grave responsibilities of such a case. Wait until labor sets in; if there should happen to be hemorrhage, use the plug made of several fine sponges, until the mouth of the womb is sufficiently dilated to admit the hand; then push away the after-birth on one side, whichever yields most readily; then insert the hand, rupture the membranes, and bring the feet down, toes to the thigh of the mother. Before resorting to this, either brandy or capsicum should be given, with infusion of good, fresh ergot; the abdomen rubbed with warm oil, and every means taken to facilitate delivery. Promptness of action and a clear head are necessary in this crisis, in order to save either mother or child. When turning is once consummated, there is litle further hemorrhage, because the head of the child effectually blocks the mouths of the bleeding vessels. If no physician is near, the nurse or midwife must pursue the above course without aid, for if she waits, death will inevitably take place. There should be no interference until the mouth is dilated to admit the hand, only by the plug, but everything be in readiness.

In case of presentation at the shoulder-joint, it is easily recognized by the child lying crossways in the abdomen, head at one side, buttocks at the other, by the sharp point of the shoulde one side, buttocks at the other, by the sharp point of the shoulder or the descent of the arm. In cases of this kind, delivery cannot take place, and it is necessary in all cases to turn. So wait until the mouth is sufficiently dilated to admit the hand; then rupture the membranes, if still entire, and proceed to turn. In doing this, the patient should be placed upon her back, knees drawn up; the back of the hand of the operator well oiled;

hand in the form of a cone, gently introduced into the cavity of the womb; seize the feet and bring down, with the toes pointing to either thigh of the mother. If the hand of the child has descended, the palm will either point to the front or the back; this forms an excellent guide to where the feet are to be found. If it points to the front, insert the hand up in front, and there the feet are to be found; if to the back, then in that direction. This saves groping round after the feet. In all cases of turning, or when it is necessary to introduce the hand into the uterus, it should be done during the absence of a pain; and if a contraction or pain comes on when it is so introduced, let it lie flat until the pain subsides, and then proceed and bring down the feet.

AFTER-PAINS.—After the first confinement it is unusual to have after-pains, as the uterus does its work with energy, and there is nothing left in it; but after all subsequent deliveries, the uterus is likely to suffer some inertia, and there is apt to be a clot, or a retained bit of placenta, or something which the uterus wants to and tries to expel. It is not to be regarded as a disease, but a healthy condition of the womb. The womb is doing its duty, and, as a rule, if the clot is not very large, the pains are not very severe; but if of great size, then there is considerable pain. There is another condition: a diseased state, in which the recently emptied uterus goes into a most violent and painful contraction, without any discernible object in view; and a severe case of this kind is bad—much more painful than ordinary after-pains, that come on to expel a clot or piece of membrane.

In all cases of after-pains, whether mild or severe, the roller should be kept applied but not too tight, as it acts as a stimulant to contraction. Opium or morphia, with extract of hyoscyamus, should be given, so as to relax the neck of the uterus; it should be administered guardedly, just enough to relax to permit the egress of the clots, discharge, or cleansing, and discontinued as soon as possible. It is best given with some diaphoretic tea, as catnip, or sweet marjorum, or pleurisy root, or boneset, whichever is most handy. If still persistent, evacuate the rectum by first administering a large dose of castor oil, with twenty or thirty drops of tincture of opium, and enemata of the same. There is scarcely a possibility of a case resisting these measures. Still, if there is, compound tincture of serpentaria could be given, and dry heat applied over the uterus. Better not to give many remedies, as they so influence the secretion of milk.

LACTUCARIUM.—The inspissated juice of the garden lettuce has the color and in some measure the taste and odor of opium. Its medicinal effects are very nearly the same, but milder in its action, and does not dry up the secretions. An excellent remedy for insomnia.

LANOLIN.—The pure oil of sheep's wool is very penetrating, and when desirous of a remedy going away down into deep parts, chloroform and any other agent should be incorporated in it and applied or rubbed in. It is so antiseptic that it never becomes rancid in the hottest weather, soothing, softening, healing; useful in burns, sprains, contracted muscles, cutaneous diseases. Dose: Spread on linen; apply twice daily.

LARYNGISMUS STRIDULUS.—Spasm of the glottis; difficult breathing; spasm comes on after inspiration; inflation of the lungs; lividity of the face; often comes with relaxation of spasm.

As a rule it is an affection of teething infants, but often met with among neurasthenic ladies. In children, irritation of special nerves, as the trifacial in teething; pneumogastric and vagus; worms in the intestines; whereas in ladies an anemic state of the spinal cord.

During an attack, give a warm alkaline bath; hot compresses to chest and throat; dry mustard to the feet in socks, administer freely compound syrup lobelia.

The general points in the treatment would be to tone up the general system by all possible means: change of air; improved diet and brain tonics, as cinchona, coca, avena, kephalin, etc.

LARYNGITIS (*Acute*).—There are two varieties—a mild form, confined to the mucous membrane, in which there is difficulty in breathing, cough, aphonia, constriction and heat in throat, with fever. The other form is where the inflammation is in the submucous tissue, with edema, a tendency to suffocation and embolism of blood; painful, harsh cough; difficulty of breathing and swallowing; wheezing inspiration, loss of voice, anxiety, distress, lividity of neck and face, clutching at throat, high fever. Always extremely dangerous.

Large doses of veratrum viride, alternated with bisulphate of quinine; alcoholic vapor bath; hot linseed meal poultices to throat with peroxide of hydrogen. Change often; open bowels with saline drinks; mustard and artificial heat to feet; moist

atmosphere; one-half dozen atomizers at bedside charged with iodine. Give Dover's powder, increase veratrum till pulse is sixty; passiflora always useful.

LARYNGITIS (*Chronic*).—Very common; varieties, *simple, syphilitic, mercurial, tubercular,* and that form common among clergymen, called clericorum, due to ranting; no will effort with exercise of vocal cords; cough, expectoration, hawking of mucus, peculiar rattle, ulceration, aphonia, or voice scarcely louder than a whisper, cough in paroxysms, croupy, emaciation.

The causes of chronic laryngitis are various, as prolonged use of the vocal organs in reading or speaking; using them too long on one pitch or key, without regard to their modulation; improper treatment of acute diseases of the throat; neglected nasal catarrh; the inordinate use of mercury; repeated colds which directly cause sore throat, injuries, etc.; it is also frequently associated with tubercular disease, and, in fatal cases, terminates in consumption.

Symptoms.—These often come on insidiously. They are soreness of the throat, noticeable particularly when speaking and immediately thereafter; a raw and constricted feeling, leading to frequent attempts to clear the throat, in order to relieve the uneasy sensation. The voice becomes altered, hoarse, and husky and there is a slight, peculiar cough with but little expectoration. At first, the matter expectorated is mucous, but as the disease advances, and ulceration progresses, it becomes mucopurulent, perhaps lumpy, bloody, or is almost wholly pure pus. The voice becomes more and more impaired, or is finally lost. In the later stages it resembles consumption being attended with hectic fever, night-sweats, emaciation, cough, profuse expectoration, and sometimes hemorrhage.

Chronic laryngitis may stand on its own bottom as the result of a cold, some bronchial or pulmonary trouble, some want of harmony between the will and volition, either to the neoplasm of cancer or the bacillus of tubercle or syphilis, symptoms analogous (although different bacteria may be present), as tickling sensations provoking coughing; an endeavor to clear the throat as the thickening increases; an obstruction to breathing, which is increased, becomes loud, prolonged, with a pecular whistling, change of voice, hoarse, husky, feeble, squeaky, scarcely audible, not above a whisper. Chronic laryngitis is a symptom of masturbation, an inanition of the generative organs reflexly

transmitted to the medulla oblongata, giving rise to paresis of the vocal cords, giving us from a slight huskiness to a marked loss of voice.

An intimate connection exists between the genital organs and the larynx through the spinal cord.

Our prognosis in all cases of chronic laryngitis must be guarded, as the practice of masturbation is common in young, middle-aged and even elderly men, that if even the defective organization upon which it depends was eradicated the organic changes in the structure of the larynx may have taken place.

There are no remedies so effectual in ridding the individual of the habit and the peculiar constitution, as the exhibition of large doses of green root tincture of gelsemium and passiflora incarnata.

Inhalations of concentrated ozone, in a steam atomizer, from fifteen to thirty drops to the ounce, effect radical changes in the larynx.

The *rationale* of the inhalation of this powerful germicide is exceedingly simple. Introduced into the aerial cavity, it impresses itself upon the lining membrane of the larynx, changes its character from a morbid condition to one of health, restores the voice; at the same time it enters the lungs and from them the blood, and through the blood every organ, nerve and muscle of the body is rejuvenated by this scavenger of nature.

Treatment.—Thorough hygiene should be at once instituted, and the patient must refrain from using his voice. At the same time, the diet, bathing, clothing, etc., require careful attention. Everything should be done that is calculated to build up and improve the general health.

LEAD POISONING.—In olden times this malady occurred chiefly among operatives in lead, among whom it found an ingress into the body by endosmosis through the skin; inhalation, and by means of the digestive tract—that is, by handling it, breathing its fumes, and drinking water stored in lead pipes and newly painted cisterns; in modern times, it finds access to our food products, in all species of canned fruits, vegetables and meats; in nearly all wines to give them a cooling flavor; in all articles packed in tin foil, in cosmetics, hair dyes, lotions.

When lead enters the body in some of its varied forms, it may be in a month or years, it produces an anemic condition, a neurosis, a true degenerative action on the nerve cells and centres. It has a special affinity for the fine delicate nerves of the

duodenum, the nerves of unstriped muscular fasciculi. Its most striking morbid changes are contraction of the arterioles, hence anemia of the tissues; fatty deposits in the muscles; and fibroid degeneration of the kidneys; minute extravasation of blood in the capillaries of the brain, atheroma of the arteries. In most minute quantities, it gives rise to a partial death of the fine delicate nerves of the duodenum, which is indicated by pain, either dull, severe, excruciating, but invariably relieved by pressure. The abdominal walls are sunken or so contracted that the vertebræ can be felt through them; pulse often slowed to forty beats a minute; blue line on the gums; constipation; muscular paralysis is common.

Lead poisoning gives rise to all the symptoms of abdominal cancer, and is a diagnostic cloak that covers some grave errors. Induration of the duodenum, a definite area of hardness near the pylorus, with pain, nausea, vomiting, emaciation, with a faint icteroid tinge of the conjuctiva has often been taken for cancer. The rectum, if examined, showed painful spasmodic contraction, evident diminution in size.

The process of recovery from lead poisoning depends much on the amount of saturation of the system, and the energy displayed in ridding the system of the same.

Pain demands immediate relief, the comp. conium pill, quartered and one portion administered every twenty minutes, together with a cocain suppository and either concentrated ozone or jelly of violets applied over the umbilical region, speedily relieves pain, and creates a new era of life.

Baths for the elimination of lead should consist of such remedies as will unite with it, and aid its exit, the sulphuret of potassium four ounces to about thirty gallons of water—the baths to be warm. There is invariably constipation, which is usually obstinate, and large doses of the sulphate of magnesia, followed by free drinking of tepid water. The sulphate of magnesia forms with the lead a soluble salt, which is removed in the feces. The pain being relieved, constipation overcome, a process of elimination commenced, then the iodide of potassium should be given in as large doses as can be tolerated, with abundance of water. The comp. saxifraga contains five grains of iodide of potass. to the dram, it is one of the best vehicles for its administration—adding to it sufficient quantity to the point of tolerance.

Comp. matricaria should always be administered in full doses to overcome the nervous and muscular symptoms which are manifested.

For the paralyzed muscles, massage and electricity are the two next best therapeutic agents, valuable adjuvants in the treatment of the various forms of paralysis incidental to this poison—relieving the dyspepsia, insomnia and debility. The aid to be obtained from electricity is immense, it has a much wider sphere in aiding its elimination than what was originally supposed. Its value is now gaining a wider recognition.

The prophylactic measures, are to avoid all food products in tins; all water held over night in leaden pipes or vessels; all wines, like claret; to operatives in lead, inculcate hot baths of the sulphuret of potassium, or hydrochlorate of sodium; drink freely a lemonade of aromatic sulphuric acid, fifteen drops to half pint of water; change underclothing daily; exercise great cleanliness.

LEAD AND MERCURY.—Two metallic poisons when brought in contact with the human tissues, locally or internally, unite with them and have a tendency to destroy them. In order to become a curative agent the remedy must unite with those poisons and cause their elimination from the body.

Iodide potassium fulfills the requisite conditions of a curative agent in all lead and mercurial diseases, being equally efficacious in both. To every teaspoonful of comp. saxifraga there is in it five grains of iodide potass. In lead and mercurial poisoning the comp. saxifraga stirs up the tissues, excites their molecular activity, so as to enable the iodate to unite with either, form an inert body, which is readily taken up by the blood and evacuated by the various emunctories of the body.

To still further aid the action of the iodide potass in the comp. saxifraga a daily warm alkaline bath, in which is incorporated the sulphuret of potassium; with this treatment both these metals can be readily eliminated from the body.

As a prophylactic agent to the lodgment of lead in the body no remedy has yet been found to supersede the aromatic sulphuric acid in fifteen-drop doses thrice daily, added to water.

LEPROSY, THE MICROBE.—A most highly infectious and extremely contagious form of skin disease, due to a hybrid microbe, the outcome of the bacillus tuberculosis and syphilis.

Its diagnosis rests upon the general constitutional disturbance, debility, mental depression, loss of appetite, chilliness with slight recurrent febrile attacks, and then a development upon the skin of isolated or scattered blebs of a dull red-brown color, tender to the touch, slightly swollen, variable in size. These

may disappear, and then return. But in most cases we notice ere long a slight but peculiar change in the face which is not easily mistaken; the skin of the cheeks a little below the eyes looks rather swollen and puckered, the nose appears somewhat thickened, the patient at the same time complaining of not being able to breathe quite freely through it, and the tone of the voice is a little altered in consequence; he speaks, as we commonly say, "through the nose." As a further and later change, very characteristic tubercles develop in the skin, especially on the face and hands; these swellings are tender on pressure, and they produce much thickening of the tissues, and consequent alteration in the features. The skin of the forehead becomes thickened and tuberculated, its furrows deepened and its prominences exaggerated; this is especially the case on and over the eyebrows, and gives a peculiar heavy, morose expression to the countenance; the hair of the eyebrows is quickly lost, the nose becomes tumid with nodules and tubercles; the cheeks are irregularly thickened; the lips hard, swollen and sometimes everted; the chin is nodulated, and the ears, greatly enlarged, stand out stiffly from the side of the head. The whole appearance is hideous and revolting. One peculiar effect of these changes is to make young people look middle-aged.

Coincidently with these changes in the face the dorsal aspect of the hands and feet may be similarly affected; the skin becomes brown, and the fingers, greatly enlarged, stand stiffly apart; the nails become dull, dry and fissured; some of the tubercles shrink and are absorbed, while others ulcerate and leave open sores very difficult to heal. Sooner or later the mucous membrane of the mouth, tongue and larynx becomes altered and thickened, and the voice assumes a peculiar hoarse whisper which is very characteristic of the disease. The eyes also suffer; the cornea becomes opaque, and a partial or complete loss of sight is the consequence. Coincidently with these visible changes in the skin and mucous membrane we find alterations occurring in the nerves, and leading to the formation of patches of completely anesthetic skin; they vary much in size, and are met with chiefly on the forearms, hands and feet, rarely on the trunk. In fact, in ordinary cases, the new growth and structural changes of all kinds are confined to the face, ears, hands, feet, forearms, legs, and mucous membrane of the mouth and throat. Tue ulnar nerve is particularly liable to be affected, and a nodular swelling may be easily felt just above the point where it crosses the elbow joint. Gradually all these

symptoms increase, the constitution becomes greatly enfeebled, the temperature is commonly below normal, and the vital powers exhausted; sooner or later some internal complication arises, and the miserable sufferer is carried off by disease of the lungs or kidneys.

In the blood and eruption, the microbe can be found in great abundance; it consists of fine slender rods, occasionally pointed at both ends, some clearly motile, others not. In the secretions from the mouth and eyes they have a beaded appearance. They are best cultivated artificially on blood serum or meat juice.

The microbe is pathogenic of the disease. Not a single sporadic case has ever occurred in this country, all are imported cases from parts of the world where it is common.

Chian turpentine mistura, and chaulmoogra oil are the only two remedies which sterilize the germ.

LEUKOCYTHEMIA.—White cell blood, a morbid condition of the blood in which the white corpuscles are greatly increased in number while the red are much diminished, usually found connected with hypertrophy of the spleen.

As to the cause of this white cell disease of the blood, we can lay down nothing definite. It has been assigned as a sequel of diseased or caked spleen in third stage of intermittent fever specially, and other malarial conditions. It is difficult to harmonize the alleged causes as atributable to that gland. We know that the spleen is a ductless gland, the great storehouse of red blood, that in cases of long fasting it plays an important part in the nutrition of the body. It acts also as a sort of safety valve to the heart in cases of chill or rigor, when there is a determination of the blood from the surface, and in the cold stage of ague it is greatly engorged. Whether this repeated congestion impairs its function if it does elevate or raise the white corpuscles to red we cannot say, or whether it is not really the poisonous action of the malarial, paludal and kindred germs on the blood factors that are the real source of the trouble.

LEUKORRHEA (*Whites*).—All mucous or mucopurulent discharges from the vagina are termed leukorrhea, whether they be due to a damaged or relaxed condition of the mucous membrane of the vagina, to a catarrhal condition of the glands of the neck of the uterus or to intrauterine catarrh.

All discharges from the vagina are loaded with germs, as the ameba, sarcinæ, various streptococci.

A mucous or mucopurulent discharge from the vulva, it may be either from the vagina or from the cervical neck or cavity of the uterus. It is generally of such a nature as to destroy the vitality of the spermatozoa before their ascent into the cavity of the uterus. In health the spermatozoa can remain active for a long period in the vagina, but if certain morbid conditions arise and there is leukorrhea, with either an acid or an alkaline reaction, the integrity of the spermatozoa is impaired by the vagina becoming unfit for their reception and transmission, and sterility is the necessary consequence.

The relation of leukorrhea to sterility, the mode by which barrenness is produced and impregnation prevented are subjects of interest to every woman. Some women with leukorrhea will conceive regularly, just as if they were free from all derangement of the generative organs, while many others do not conceive during the presence of this disorder, not sterile, but become fertile the moment the leukorrhea is cured. Sterility then is often the outcome of leukorrhea, which too frequently prevents the function of evolution in the ovary, and rendering the canal of the Fallopion tube and cavity of the uterus unfit for fructification of the germ.

The administration of the ozonized wine of aletris farinosa will positively cure every case of leukorrhea in which it is administered; it never fails. One of the best of all remedies.

The glucoside of life-root, senecin, made into oval tablets and inserted into the vagina, well up, permitted to remain over night, is also an excellent curative agent. Pastils of nympha odorata, which are prescribed so extensively in Europe and America for prolapsus of the uterus, are of immense value in the cure of leukorrhea.

Discharges from the genital organs, both simple and infectious, are very frequent in women. The notion of a neurosis of the plexus supplying the mucous membrane of the vagina is often too far-fetched, for in all cases of leukorrhea, with or without pruritus, there are micro-organisms present which give rise to local infection. These germs can be all isolated and classified.

To keep the vagina healthy, free from all disease germs, should be the aim of every woman. For this purpose the senecin tablets have been placed at her disposal. By the introduction of one or two of these every evening she can keep

the vagina aseptic, free from all forms of low organic life, even the most virulent.

Factory life in the United States seems to be inimical to a healthy vagina, the semi-tropical climate, the insalubrious atmosphere, the standing posture, all aid in relaxing and giving rise to an inveterate form of leukorrhea, so that every female operator is affected with the malady. Seven hundred mill hands were examined by the medical officer of a factory; every one had leukorrhea, and all obtained a speedy cure by the introduction of the senecin tablets, and keep well by using the same.

In the more aggravated forms, pruritus is a common accompaniment. Some have it many years, and often all treatment seems hopeless. Many of these cases have the orifice of the urethra reddened and the external mucous membrane studded over with, pretty far back, minute soft warts which keep up the discharge. The application of the oil of thuja will remove these growths. With the arrest of microbe growth, cessation of the pruritus, a complete cure by the senecin tablets. Senecin as a vitalizer of the uterus and its appendages has an extensive range of action, whether used internally or locally; even in cases of leukorrhea associated with vertical headaches it affords prompt relief.

Remedies.—Vaginal pastils: when dependent on a constitutional defect, helonias, aletris, pulsatilla, cinchona, hydrastis, mineral acids, vaginal injections of boroglycerid daily.

General Measures.—Improve the general health by every possible means, as the discharge is only evidence of debility, weakness of the vagina; injections with fountain syringe are very beneficial; medicate with hydrastis, witch-hazel, white pond lily, potassium permanganate, boroglycerid; use ozonized pastils.

LEUKORRHEA, INFANTILE.—Discharge chiefly from external genitals; sometimes extends up the vagina.

There are often consideration and anxiety regarding these discharges in very young children.

Ascarides, skin diseases, malnutrition, are usually the cause.

Lotions of boroglycerid or sulphur water are usually sufficient with removal of cause.

LICHEN.—A papular disease of the skin. There are several forms of lichen, all of which are characterized by the eruption, on the face, trunk, or limbs, of groups of red papules, which itch a good deal. A familiar form is "prickly heat."

Treatment.—Plain, light food, a saline aperient, and alkalies internally. To relieve itching, a lotion of borax and vinegar is useful. In chronic cases a course of cacodylate of sodium is invaluable, never failing.

LIFE-ROOT.—The use of alkaloid remedies deserves the attention and patronage of all physicians as being definite in their action. The alkaloid of life is a valuable germicide capable of annihilating all the disease germs in the urethra of the male and the vagina of the female.

It is best adapted for local use, as in the form of a bougie for the male, and a tablet or wafer for the vagina.

The vagina is the home of fourteen different varieties of disease germs, six of which are pathogenic, in all of which the microbe can be detected in the leukorrheal discharge. In twelve per cent of all cases, the bacillus of tubercle is found; in forty per cent, the gonococcus; in ten per cent, the microbe of syphilis; in the balance, other disease germs are found.

The germ-laden leukorrheal discharge gives rise to auto-infection of the affected woman by penetrating the lymph canals of the mucous membrane of the vagina, which communicate with the internal lining membrane and body of the uterus, giving rise to inflammation of some degree.

The examination of the vaginal discharge is the only reliable method of diagnosis.

The great aim and object of all women should be to keep the vagina aseptic, so as to prevent inflammation of the uterus and its appendages, with the sequel, sterility and cancer.

This is easily effected by the insertion of a senecin pastil on retiring, which penetrates the mucous membrane, the large lymph vessels which run alongside the uterus and in the folds of the broad ligaments.

LIGHT.—A remarkable curative agent and germicide—its vitalizing and bactericide properties have never been properly appreciated by the medical world.

It is true, that our present knowledge of the chemical and physical action of the different rays of the spectrum, and the influence of light and darkness on life in its highest and lowest manifestations is meagre; still enough is known to render it valuable as a therapeutic agent.

On the three eruptive fevers it is of signal efficacy. In measles a darkened room, with scarlet blinds, with a lamp ignited with an orange yellow globe, used for artificial light,

causes the rash to disappear; ameliorates all the symptoms; promotes rapid recovery; admit light all the severity of the disease returns.

In smallpox, if the patient is kept under the influence of a yellow light, symptoms are mild; no pitting of the exposed parts take place; maintain the yellow light the micrococcus will die. A blue light is inimical to the microbe of scarlatina.

A violet light completely annihilates the microbe of neurasthenia; hence this light is of the greatest utility in the treatment of nervous maladies, as headaches, epilepsy, chorea, paralysis, and above all in insanity, a malady over which it exercises a most mitigating action.

Exposure to the sun's rays, sunlight, is death to many disease germs, causes the complete destruction of the bacillus of typhoid fever, the tubercular bacillus and many others.

There is a big future in sunlight as a chemical agent in generating ozone, either in plain, colored water or in the menstrum of plants; mullein oil, oil of arbor vitæ, and St. Johnswort owe their marvelous disease curing properties to the action of polarized sunlight, extracting their oils, intensifying their germicidal action. Water in different colored bottles, set in sunlight becomes chemically identical with ozone water, acquires wonderful germicidal properties, and when administered kills the germs of diarrhea, dysentery, bubonic plague, hydrophobia and leprosy.

Light is intensified by means of glass and colored fluids, focused on a part loaded or infiltrated with the neoplasms of cancer or lupus, is effectual in causing their complete destruction without pain. The eminent accurate observers, the cancer specialists of our country, are an acknowledged authority on this subject, and are now treating cutaneous malignant disease by means of light.

LIME WATER.—Lime water when applied to suppurating or mucous surfaces, checks or stops secretion, and produces dryness of the parts; hence it is a desiccant, and is useful in sickness and irritability of the stomach during teething. The power of exciting and changing the mode of action of the absorbent vessels and glands has been ascribed to lime water, and probably with some foundation, for under its use glandular enlargements have become softer and smaller—in other words, it is a resolvent. It often relieves the superficial but painless ulceration of the mucous membrane of the mouth, observed in

dyspepsia. In these cases one part of lime water to two or three of milk is usually sufficient. Given in this form it will often stop the most violent sickness. In some tubercular ulcers its power of checking secretion is most marked. Lime and sugar form a compound considerably more soluble in water than pure lime—the colder the water, the greater its power of dissolving lime.

LIVER.—The old writers on physiology considered the liver as performing simply the function of separating the elements of the bile from the blood. But later investigations convince us that the liver performs three distinct functions: (1) the storing up of glycogen; (2) the oxidation of albuminoids; (3) the formation of bile. The liver, then, is seen to be an important organ. In order that the liver should perform its share in the digestive process, it is necessary that the mastication first be well performed, then the digestion in the stomach performed, then the liver if in a healthy state can perform its function well also. Bad teeth, causing imperfect mastication, and that bad digestion; so imperfect assimilation may cause hepatic disturbance. The liver converts the sugar, which is found in the portal vein after digestion, into glycogen, which is a substance much like dextrin in its composition. It is an insoluble form of sugar. But for the metamorphosing action of the liver, this sugar would accumulate until the blood would be surcharged with it. But being stored up by the liver after each meal in this insoluble form, it is then gradually given off as the organism requires it. The liver, then, in one sense becomes a fuel depository in the first function it performs. And if the sugar accumulates more rapidly than the liver can rehydrate, *or change into* glycogen, then it passes out through the kidneys and constitutes one form of *glycosuria.* A great many liberal eaters of starchy food may pass sugar in the urine in small quantities. But if it is found in considerable quantities, it produces the symptoms of diabetes. If there is more sugar in the blood than the liver can convert into glycogen, then diabetes will result, and the tissues soon waste away, unless such other food be provided in sufficient quantities to prevent it. There may be glycosuria, and yet there may not be any great danger, as it may appear as a species of waste, but in large quantities it is evidence of serious disturbance in this hepatic function, which, if not relieved, endangers life. Diabetes is actually a disturbance of the first function of the liver—that is, it is the

failure of the liver to convert the sugar into glycogen, hence it accumulates in the blood until the vicarious action of the kidneys removes it from the blood, with other waste materials. The second function of the liver is the oxidation of the albuminoids of the food. These albuminoids of the diet are converted into peptones by the action of the gastric and pancreatic juices, and from these peptones the various tissues of the organic structure are continuously replenished and the surplus is formed by the action of the liver into glycogen and nitrogenized waste, as into *leucin* and *tyrosin,* and these are, by more complete oxidation, converted into urea and uric acid.

The liver, likewise, burns up the worn-out blood-corpuscles and the *débris* of the tissues more completely. The liver also destroys the waste albuminoids and is a great physiological protector and preserver of the organism in three ways. (1) It prevents disease. It constitutes a barrier not only against poisons introduced with the foods, but against substances which result from perversion of the primary digestive processes in the alimentary canal, such as alkaloids of fermentation and and putrefaction. (2) The liver combats and controls disease by perfecting the ultimate steps of digestion, thus furnishing nutrition and munition to the army of cells in their battle with microbes and toxins. (3) The liver preserves the health and hygiene of the body by directly eliminating toxins and waste products of metabolism through the bile into the intestines and indirectly by furnishing the most powerful physiologic diuretic, urea, to stimulate the most important excretory organ, the kidney, thus aiding the complete elimination of the waste products of normal dissimilation as well as the refuse resulting from the carnage in the combat of the cells against disease. And it is a noted fact, that when a portion of the liver is destroyed by cancer or abscess, the quantity of urea is diminished. We find the liver involved in the disorders which are associated with the deficient oxidation of the albuminoids. If there is a large quantity of sediment in the urine, there is deficient oxidation, either from the fact that the liver is overburdened with albuminoids—that is, that there is an excessive quantity of food taken—or else there is deficient action in this organ, called *biliousness,* and often improperly drugged with the *so-called cholagogues* to no purpose but to the increase of this condition. Excess of nitrogenized food may also produce lithiasis in persons whose liver is active. In many cases where the liver is inactive the kidneys will separate

the lithates from the blood freely, and thus depurate it, and thereby ward off that condition called lithiasis. In cases of lithiasis the quantity of albuminoids should be diminished to the smallest amount that will actually supply the wants of the tissues. A diet consisting of hydrocarbons, without nitrogen, will not produce lithiasis; but if the diet contain excess of hydrocarbons and albuminoids, then lithiasis may readily occur. Hydrocarbons oxidize very slowly when combined with nitrogen. Hence the oxidizible hydrocarbons burn readily and consume the oxygen of the blood, and leave the albuminoids imperfectly. In hot climates if the albuminoids are freely eaten the liver, sooner or later, is apt to become diseased. Tropical liver diseases, and functional disorder of it in all climates, are associated with the second function more than with the first function of that organ. Rich food, such as contains sugar or fat, causes liver disturbances by impaired oxidation of the nitrogenized elements of the food; especially will this be the result where the meals are excessive and contain the albuminoids in excess also.

The bile which the liver produces is secreted under very low pressure, and a very slight obstruction indeed is sufficient to prevent its exit from the bile-duct into the intestine. Its expulsion is usually aided by mechanical compression, because the liver lies directly under the diaphragm (or midriff), and during exercise it is compressed between this muscle on the one side and the abdominal organs on the other; these are pressed up against it by the muscles of the body's walls. But this exercise, in order to be efficacious, requires to be brisk. When a person is sitting at rest, or even walking slowly along a level road, the abdominal muscles yield as the diaphragm descends, and so little or no compression is exerted on the liver. In running, in climbing, in jumping, in vigorous efforts of any kind, the conditions are different; the abdominal muscles and diaphragm are frequently brought into action at the same time, and thus compression of the liver is effected; thus a quarter of an hour's exercise at lawn-tennis, at cricket, at boating, or, perhaps, even better in riding, is more efficacious in stirring up the liver than an hour and a half, or even more, of a languid constitutional walk.

Such is the treatment that ought to be adopted, if possible: but where circumstances render exercise impracticable, the plan is to lessen the quantity of animal food and to increase the action of the liver by hepatic stimulants. The mere sipping of

water is a stimulant of this sort; not only has it the extraordinary action upon the circulation already mentioned, but it increases the quantity of bile, and causes it to be secreted under a greater pressure, so much so that it will overcome an obstruction to its entrance to the intestine, such as would otherwise have stopped its flow. A glass of Carlsbad water sipped hot in the morning during dressing is very useful also, and if necessary, recourse may be had to the powerful liver stimulants.

LOCAL ANESTHESIA.—Many medicaments are now in use for the production of local anesthesia, besides the evanescent ether and rigolin. Very many of these have been introduced by the Germans from our own coal, and sent here to soothe the aches and pains of the Yankee, and at the same time paralyze his heart. In a very extensive clinical experience I have prescribed them all to their fullest extent, but none of them has served my purpose so well as the jelly of violets, a natural product without a rival as a means of allaying excruciating pain. Digesting all the advantages and disadvantages of the coal-tar derivatives, heart-paralysis, and recent synthetical compounds, jelly of violets excels all; besides it is a germicide, nontoxic, prompt in action, penetrating deeply, arrests inflammatory action wherever it exists. It neither affects the heart nor disorders the nervous system.

It is a typical local anesthetic, and so highly antiseptic that it prevents fermentation and even putrefaction. Permanent solutions can be formed with it, and can be combined with other remedies which render it of great efficacy in many diseases, such as ulcers, chancres, and especially in cancer.

Painted on in its full strength, it will efface pain from twelve to twenty-four hours. Many successful cases of cancer of the stomach might be cited, in which the jelly in a papoid solution has effected brilliant results.

LOCK-JAW.—The medulla oblongata, the seat of reflex action, having its vitality in some way impaired, any peripheral irritation may, if of sufficient intensity, give rise to spasmodic action, and to the evolution of a germ peculiar to the partial death of that tissue, which in the progress of growth excretes a most deadly toxin, which causes irritation of all weakened nerves, such as the nerves that supply the muscles of the jaws (constituting trismus); the nerves that supply the muscles of the back (opisthotonos); the nerves that supply the anterior

muscle of the chest and abdomen (emprosthotonos); the nerves of one side (pleurothotonos), more or less violent according to the loss of vitality.

Some claim that the microbe is to be found in garden earth, especially in spring and fall, that it finds an entrance into the bodies of men and domestic animals, through some abrasion or lacerated wound—coming directly under the class of infectious and contagious maladies.

Lobelia orally, subutaneously and by enemata; maintain profound relaxation for seventy-two hours, till the micorbe dies.

LOCOMOTOR ATAXIA.—The so-called Christian world and would-be philanthropists are in trouble over the general increase of suicides. The cause is easily traceable to masturbation and sexual excesses, which produce high tension of the cerebral circulation, with consequent mental instability, leading to self-destruction.

But why overlook a more prolific source of self-destruction, where the effect is not so severe and rapid, but where the power of mental concentration is gone, memory feeble, diminished vision, impaired hearing, with pains in the head and heart, nervous system drained out.

Lightning pains in the legs, ptosis where the pupil does not contract to light, but accommodation, optic atrophy, sensory disturbance, in which hot articles appear cold, or *vice versa*; anesthesia of the soles of the feet,; if he shuts his eyes, totters and falls, marked inco-ordination, ataxic gait, impotency, gastric crisis and loss of motor power.

Why overlook this malady, *Locomotor Ataxia,* which is rotting the very vitals of our nation—a pathological condition, in which the peripheral nerves and posterior roots of the spinal cord are degenerated—in which the posterior columns of the cord are sclerotic, in both the dorsal and lumbar regions, and its membranes in a state of active inflammation.

Outside of sexual excesses and the ptomain of syphilis, locomotor ataxia is caused by the toxin of influenza, which in all cases has a disastrous effect upon the nervous system. This ptomain induces changes in the spinal cord of an inflammatory character. The toxins of measles, scarlatina, smallpox, and typhoid fever, penetrate the substance of the cord and induce pathological changes often overlooked.

Up to date, the treatment of ataxia has merely been a professional blunder. Great hopes are entertained of the organic

extracts, whether the thyroid extract which cures myxedema, idiocy, feeblemindedness, incurable cutaneous affections, cancer, all human defects is available here. Can it also rectify this abnormal condition? My experience with it has been somewhat meagre, only a few cases.

I must state that it certainly retards the disease. These few cases were placed upon the thyroid; to some it was administered daily, to others every other day.

At the same time, all the cases were placed upon the comp. saxifraga ozonized, a wonderful remedy to change the sentient and motor cells of brain and cord, while the guaiacol plaster was applied and kept on as much as possible over the dorsal and lumbar portion of the spine.

To my professional brothers who have cases of ataxia on hand, try the thyroid and saxifraga treatment. They have greatly benefited my patients, and so will they yours; and if not essentially curative, they retard its onward progress, and make a decided change for the better; such a change as is worth living for.

LONGEVITY.—Three score years and ten is the mean duration of life, but the average man is not satisfied with this, and engrosses his mind with ideas of prolongation. No doubt longevity is attainable by avoidance of all insanitary conditions; by the observance of hygienic rules; by the avoidance of deleterious or adulterated food.

The principal causes of death are accidents; disease; old age.

With our modern civilization, accidents are more common; disease less and less fatal; excesses greater and more frequent, which give rise to a premature curtailment of human vigor.

Old age, or physiological ossification, in which there is a deposit of calcareous matter on the walls of blood-vessels and the valves of the heart.

These elements are found in food, chiefly, however, in the water consumed; and it may be accepted as a truism that if after puberty is reached, only distilled water were used, it would lengthen the mean duration of life at least twenty years.

Auto-intoxication, due to imperfect elimination of the waste products.

The body in health is the theatre of change, of metamorphosis of tissue, incessant destruction and rebuilding, and it is of vital importance that the *débris* should be promptly and thoroughly removed. Nature has provided several avenues by which the

waste may be removed from the body, the principal being the skin, the lungs, and the intestinal canal. The latter is infinitely more important than the others, since by it the waste products of digestion are expelled. If it fails to promptly fulfill its office, every vital function is interfered with; and in addition, the fluid portion is absorbed into the circulation, re-depositing in the very fountain of life effete substances inimical to the economy. Should the system, while in this condition, be exposed to a chill, a congestion of the surface excretory vessels takes place and practically the whole work of elimination is thrown upon the already hard-worked kidneys, frequently resulting in uremic poisoning and death.

Besides eliminating the waste material, daily bathing, massage, flannel clothing, and eight hours of repose—it is in these we have the secret of longevity.

Statistics show that small meat-eaters, abstainers from stimulants—avoidance of all excitement and worry—are the longest livers.

But it is very doubtful if those who live a feverish, hurry-scurry life can, unless they have very excellent constitutions and not often then, ever live a hundred years. Seventy-five or eighty years ought to content the majority of mankind, until we are able to live rationally.

Eight hours' sleep.

Sleep on your right side.

Keep your bedroom window open all night.

Have a mat to your bedroom door.

Do not have your bedstead against the wall.

No cold tub in the morning, but a bath at the temperature of the body.

Exercise before breakfast.

Eat little meat and see that it is cooked.

(For adults) drink no milk.

Eat plenty of fat, to feed the cells which destroy disease germs.

Avoid intoxicants, which destroy those cells.

Daily exercise in open air.

Allow no pet animals in your living rooms. They are apt to carry about disease germs.

Live in the country, if you can.

Watch the three Ds—drinking water, damp, and drains.

Have change of occupation.

Take frequent and short holidays.

Limit your ambition.

Early senility of the nervous system is due chiefly to cardiac and arterial degeneration, and is seen chiefly in the male sex. Its prophylaxis is to be sought in bodily and mental activity and moderation in living. It is very often hereditary, and in such cases treatment should be commenced early in life, about the twentieth year. Habitual moderation in eating and drinking should be enjoined, with a fair amount of athletic exercise in the open air, taken regularly and systematically. If possible, one whole day weekly should be spent in the open air, but fatigue should be avoided. Great moderation in eating and in the use of alcohol is especially necessary. Excess in tobacco and in the sexual functions should be avoided. The hours spent in sleep should not exceed eight out of the twenty-four, and after fifty years of age five or six hours are enough. Early rising conserves the intellectual energy. It is especially important to maintain a good flow of spirits and to avoid habitual ennui, low spirits, or depressing emotions. The absence of occupation, such as follows retiring from business, often precipitates the changes inevitable to old age. Hence, in every case, some "hobby" should be indulged.

LUMBAGO.—An undefined malady, in which we have an excess of uric acid in the blood, the toxin of the bacillus amylobacta of rheumatism infiltrating the sheaths of the muscles of the back, blocking up the kidneys and permeating origin of the sciatic nerve.

When the muscles of the back are the parts affected there is a dull, dragging pain and some soreness, at times, and efforts to move the spinal column in any direction cause sharp paroxysms of pain. The patient, on standing, is obliged to bend forward, and efforts to stand upright, or pick objects from the ground, are rendered almost impossible on account of the suffering which they cause.

The remedies of most utility in lumbago are such as are most serviceable in chronic rheumatism: comp. saxifraga simabicidia, pric acid solvent, tinct. cimicifuga racemosa.

Much amelioration follows the application of a large guaiacol plaster over the loins, and over this a large stout bandage of flannel. The relief following this plan of treatment is immediate and almost miraculous.

LUNGS, DISEASES OF THE.—These diseases are only too common in this country, and are in most part due to the

damp, cold climate, sudden vicissitudes and also in no small degree to overcrowding.

The lungs are liable to general constitutional diseases, such as cancer, hydatids, syphilis, etc. Tuberculosis in man almost always affects the lungs, giving rise to Phthisis Pulmonalis. The bronchial tubes may undergo catarrhal changes and inflammation, and this is called Bronchitis, which is described elsewhere. The lung tissue itself is diseased in cases of inflammation of lungs, or Pneumonia, and may become passively congested as a result of other diseases, as in heart disease. When the membrane (the pleura) lining the chest wall and covering the lungs becomes inflamed, we have the disease known as Pleuritis, or Pleurisy.

LUNG CAVITIES. MICROCOCCUS TETRAGENUS.—Vomica, or caverns in the substance of the lung are very common as the result of the massing of large numbers of the tubercular bacilli into one spot. The actinomyces make fearful havoc in the lung and leave large cavities. The venereal bacillus also does effective work; the pneumococcus does not possess this faculty to a great degree.

On the walls of all lungs diseased and cavities, in the sputum, the micrococcus tetragenus is ever present.

The presence of this microbe in the lungs gives ries to grave symptoms; its excretion of ptomains of the most toxical kind seems to be unlimited and of the most deadly character.

Grave affections of the lungs frequently commence either with an ordinary cold in the head and chest, nasal catarrh, laryngitis and bronchitis—conditions which are decidedly common.

Lungs weakened from or by any condition often become the abode, the receptacle of disease germs, provided they be in the blood or air breathed. By preference they penetrate the substance of the lung, and into this they aggregate in masses and form nests, technically termed vomica or caverns.

The *tubercular* bacilli possess this faculty of aggregation in a most remarkable degree; the *actinomycosis* comes next, making great havoc, immense cavities; the *venereal bacillus* frequently gives no exceedingly large formations; the *pneumococcus* has little tendency to form isolated masses, but it migrates, forms infiltrations. Whatever be the microbe that makes up the vomica, and it has been once expectorated, on the walls of all such cavities, in the breath, in the sputum, the micrococcus tetragenus is ever found. Cultures injected into any

mammalia give us the characteristic symptoms and precise pathological condition.

The evolution of this microbe on the walls of the vomica—its extremely rapid growth, toxins most deadly, the product of bacterial growth, thrown off in an unlimited degree—give rise to putrescency, fetor of breath, diarrhea, hectic, profound prostration.

It has been customary in clinical teaching to classify all vomicas as being due to tuberculosis; the time has now arrived when very many cases can be diagnosed as either syphilitic or due to actinomycosis.

LUPUS.—A very chronic skin disease, which, if left untreated, causes disfigurement, the features being, as it were, eaten away. Hence the name lupus, eaten by a wolf, supposed to be a hybrid germ.

There are two chief forms of lupus, in both of which the skin is infiltrated with new cells and the blood-vessels altered. They are *Lupus Vulgaris* and *Lupus Erythematosus.*

The latter is a purely local affection. It attacks adults, and consists of several red, elevated patches on the face. These patches become slightly scaly, and the openings to the glands are seen to be dilated. On healing there is left a slight superficial scar.

Lupus Vulgaris is a more serious complaint, for it is one of the terrible tubercular diseases. It appears first during childhood, just before puberty. It generally begins at the corners of the nose with the formation of gelatinous-looking tubercles, red in color, with some scabbing. The disease gradually spreads, and the tubercles either disappear, leaving a scar (*non-exedens* variety), or else they ulcerate (*exedens* variety) and cause great destruction of tissue. The disease is very chronic.

The eruption is nearly all made up of tubercular matter, swells, forms considerable thickening, devoid of moisture; in the more aggravated form, the tubercular patches ulcerate, causing deep excoriations and cicatrices, eating in all directions.

Lupoid ulceration is sometimes met with in the labia of prostitutes and the scrotum of males.

Recent treatment consists in first brushing it over with pure formalin, poulticing a few days till the eschar separates, then dusting on formal gelatin, to form a scab, under which, if the constitutional treatment be pushed, it will heal.

The treatment, which has been successful, is the same as

tuberculosis: matricaria for appetite, protonuclein to cause leukocytosis; c. p. solution spernim, thyroid extract, glycerite of ozone. Most nutritious diet. Some cases successfully cured with jelly of violets.

LYCOPODIUM.—The yellow spores of *Lycopodium clovalium,* commonly called club-moss.

Therapeutic Uses.—A microbicide of the highest order, of great efficacy in boils, skin affections, catarrh, dysentery, leukorrhea.

Preparations and Doses.—Tincture, 10 to 15 drops every three hours.

MALARIA, THE MICROBE.—In all countries where the atmospheric temperature exceeds 80 degrees F., there is an evolution of the microbe of malaria from all decaying vegetable matter, a germ which is liable to enter the blood of man and animals, chiefly through the salivary glands of the mouth, bronchi, mucous membrane and skin.

These micro-organisms once in the blood, enter the interior of the red corpuscles, live in them, receive their nourishment from them, ultimately using them up in their own growth and nutrition.

Once the microbe of malaria occupies a red disc, it gradually usurps the entire corpuscle, and enters upon a new era of existence, during which segmentation commences, spores are formed, set free and forming a new germ—the activity of growth depending upon the degree of vitality in the germ-saturated individual.

The entrance of this micro-organism into the blood is characterized by a special type of fever, periodic in character, with three distinct stages—a cold, a hot and sweating. Each may last but a few minutes to several hours; in many cases, one or more may be absent.

Truly, the fever is periodic, that is, it may come on every day at a definite hour (quotidian); or every other day (tertian); or every third day (quartan); during the interval between, patient comparatively well.

The explanations offered by bacteriologists as to frequency of occurrence and periodicity are: The degree of vital force of the individual and sprouting of the germ as to stages, that the chill, rigor or cold stage represents the segmentation,

the setting free of spores; the fever to their maturity and dissemination of the products of growth, toxins.

An examination of the blood during the interval or intermission shows a quiescent stage of the germ, no segmentation; that during the rigor the sprouting or shedding process begins, because free spores are then found.

The microbe of malaria is pathogenic of disease, isolated it will grow in any nutrient fluid, cultures injected into animals will reproduce the affection.

The best prophylactic measures are a very high standard of health attained by massage, bathing, high-graded diet; avoiding all excesses; sleep in upper stories; open fire places; remain in doors after sundown; keep bowels regular, and, above all, keep the mouth shut when exposed out of doors in all malarial zones.

After a succession of very unhealthy years, due chiefly to extraordinary seasonel and meteorological conditions, the malarial germ has attained the power of being slowly communicable in an indirect manner from person to person, so much so that an intensified form of malarial fever has been visible following attacks of epidemic influenza. When convenient, segregation of cases in infected sites is desirable to eradicate the germ and protect all new-comers and the unacclimatized. Disinfection of houses should be performed in the winter months, when infection is at its minimum.

A condition of neurasthenia is most favorable for the ingress of all disease germs, and in particular the malarial; and if a very decided and energetic treatment be not resorted to, it very speedily disorganizes the blood-discs often beyond the power of recuperation—induces structural changes in vital organs, as the brain.

In North America, from Canada to Mexico, we have a highly oxygenized atmosphere, teeming with the malarial germ, and are in no ways dependent for its propagation upon the "mosquito." Solar heat, acting upon decaying vegetable matter, gives us the evolution. Any individual who has the slightest poverty of nerve force is liable to become its victim, have it enter the blood-stream and grow according to the defective vitality of its host.

Now the theory upon which eminent physicians act is that the microbe must be annihilated in the blood, eradicated before embolism takes place in the brain and blood-vessels—before leukocythemia sets in.

That body, the leading physicians of North America, cure malaria by the administration of the concentrated tincture of kurchicin ozonized.

The type of fever is ascertained, stomach cleansed, bowels opened, skin bathed and stimulated, the patient placed in the recumbent position in bed; three hours before the rigor, one teaspoonful of tincture is then given, and subsequently another every hour, so that three be taken before the chill. Even if this be successful, it should be repeated seven consecutive days. Neither water nor any liquid pabulum upon which the microbe could subsist should be permitted while taking the kurchicin. It is essentially a curative drug.

Upon this remedy we stand, for it rarely disappoints us, but when the microbe is either the evolution from the turning over of the virgin soil, or the rice swamps, or the upheaval of large rivers, paludal poison, tincture of green root of gelsemium and ozonized passiflora must be also administered and the kurchicin given steadily according to the directions of the physician in attendance. This is the usual method in dengue, remittent, bilious remittent and relapsing fevers, keeping liver active, to work off the toxins as they accumulate in the blood.

If the kurchicin suppository be used instead of the tincture, first wash out the rectum four hours before the rigor, permit its contents to pass, then insert one every hour until six are utilized.

The next most reliable remedy to cause annihilation of the germ is Warburg's tincture, a good germicide.

Sulphate of quinine, always in solution by the addition of aromatic sulphuric acid, so as to form a bisulphate. Never administer either in pills or tablets, which are a miserable subterfuge; a suppository is often efficacious.

These are the most successful elements of a treatment, which meets with universal success in arresting the growth of the germ in the human blood, in staying the pathological conditions which entail so much misery on the human race.

Following, the breaking up of this, the first stage of microbic existence, the patient, for a few months, should take some tonic strongly imbued with microbicide properties. Any of the following would fulfill the indications: Good old port wine, one quart; pulverized Peruvian and wild cherry bark, of each one ounce; half an ounce of coarsely-ground cinnamon and cloves; one dram of nutmeg and one of capsicum; one tablespoonful of table salt and one of the milk of sulphur; mix. Shake well

every hour for half a dozen times. It is then ready for use. Dose, from one teaspoonful to a tablespoonful as indicated, at least every three hours.

Another excellent formula which will bring the malarial microbe to bay is: To one bottle of good old port wine add two drams of sulphate of quinine dissolved in one and a half ounces of aromatic sulphuric acid; two ounces of Peruvian bark very coarsely ground; two drams of cloves, one teaspoonful of capsicum; mix. From one to two tablespoonfuls every three hours.

Kephalin granules kill the malarial germ, first, by producing leukocytosis, and second, in raising the standard of the blood discs so greatly that the microbe is literally smothered out.

In chronic malaria, when properly understood and appreciated, the alcoholic bath is invaluable in malarial poisoning. It accomplishes much, soothes the irritated nerves, aids in elimination of toxins and waste material. It equalizes the circulation, relieves congestion of both brain and spleen. It vitalizes and purifies the blood-stream. It is a rebuilder of tissue, hastens metamorphosis.

The primary action of the heat is to relax the tissues, invite a more even distribution of the blood. Every organ is quickened; secretion and excretion become active, sluggish lungs regain energy, the cloudy brain clear, its pristine activity reinstated. An alcoholic vapor bath affords the most perfect system of sewerage of the human body.

The secondary action resulting from sweating, is, the heart is relieved by lessening the volume of the blood, dilating the peripheral arterioles; water from the blood, containing waste toxical elements, is expelled. Torpidity gives place to activity. No vitality is extracted, but much gained by the reflex stimulation. The effect of the hot-air treatment is good to purify the blood, and places the patient on a higher plane to resist the ingress of germs.

The following are the leading opinions regarding this microbe:

The skin, the bronchial mucous membrane, but more especially the salivary glands of the mouth and the absorbent of the stomach, are the mode of ingress by or through air and water that these microbes reach the blood; not so often by the mosquito. From the germ-laden air or water they will enter the blood, if vital force be low; they will imbed themselves in the red corpuscles and cause crescentic pigmentation of the blood,

with segmentation of the germ; if vital force be high, even normal, they will be repelled.

The blood of man and domestic animals in whom the micro-organisms of malaria have entered, have the disease germ enter the interior of the red discs, in which they undergo changes, sprout, develop, grow.

In their first attack upon the red corpuscles, they are of an ameboid form and cause crescentic pigmentation.

As they grow older they assume the flagellated form, which is the adult condition of the germ. Any one can readily verify the fact by drawing a drop of blood from any part of the body; place it in the field of a microscope of 2500 diameters; take a drop in the cold stage, and the ameboid pigmentation will be seen; take a drop in stage of decline, and the flagellate protozoa are present in millions in a case of ordinary quotidian.

The germs crowd the capillary vessels of the brain and the blood-forming glands, as the spleen, suprarenal capsules, pink marrow of bones, lymphatics. These, in chronic cases, are filled with dark granules, flagellate organisms, with an undulating fin-like membrane, highly polymorphic.

In the tertian, quartan type, and in the comatose pernicious forms, the germs are most numerous and most destructive to the red corpuscles.

An interesting practical point is still unsolved, which is, whether the micro-organism from decaying vegetable matter, when it enters the blood, coalesces with and destroys the red discs, or whether the microbe produces a special degradation of living matter, changes it into the microbe, causing destructive metamorphosis of the red corpuscles. One thing is certain, that the micro-organism is pathogenic of the disease, that all attempts at the culture of the germ outside of the blood have so far failed.

The influence of sulphate of quinine, or Warburg's tincture, or the concentrated tincture of kurchicin, are definite on the organisms. Either one of those remedies causes those pigmented bodies to disappear, provided three or four full doses are administered before the paroxysm. The kurchicin acts as a positive specific.

Many valuable germicides, as thallin, kairn, antifebrin, antipyrin, have no effect on the microbe whatever.

The germ of malarial fevers is an organic germ floating in the air we breathe, and capable of introduction into our bodies through the food we eat or the water we drink. The patho-

logical effects of the germ upon the human organism are protean in their forms, varying from the intense saturation of the system to the slightest degree. No organ in the body escapes the influence of the germ.

These remedies exercise a special curative action, killing the germ and rendering the blood unfit for its reception, growth and development.

The parasite of malaria causes a diminution of the red corpuscles of the blood. The time of sporulation corresponds to the rigor; its climax of development coincides with the maximum temperature, at which period it breaks up into spores, which rapidly invade other corpuscles. The integrity or non-integrity of the vital force of the germ-smitten parent has much to do in the production of grade or type of case.

Whatever remedy is prescribed for the annihilation of this parasite should always be given in three distinct doses, at proper intervals before the rigor.

The rectal treatment with me is a grand success. Wash out the rectum with a copious injection of a warm solution of boroglycerid two hours prior to the chill; after it passes insert one suppository kurchicin, in half an hour another, then another. If properly performed usually never another chill. Repeat for three days.

Of all disease germs to which man is liable, there is really none so great a breeder of disease and death as malaria. It shatters the brain, devitalizes the spleen, liver and kidneys, wrecks the finer nature of our existence.

Good, strong, vital force, the essential elements of a hardy race, cannot prevent the entrance of this microbe in water, in air, and otherwise into our bodies, but such a state can retard its growth, maintain its latency; whereas, overwork, exhaustion, meagre food, exposure to solar heat, derangement of the hepatic function, or irritation of the hepatic vasomotor nerves, favor its growth if it once has found an ingress.

The liver has a peculiar function with regard to the ptomains of all disease germs, retaining, destroying, or utilizing them in its metabolism. The latency of the malarial germ depends much upon the retention of the germ in the liver, until some functional derangement permits their access to the circulation.

For the complete annihilation of the malaria, either in a latent or active state, our readers will find the following plan of treatment unexcelled for efficacy:

Give six grains periodate aurum on the tongue. If germ is

active, follow three hours before the rigor with one teaspoonful of concentrated tincture kurchicin; one hour later another teaspoonful, and a few minutes before, another. The very nature of the germ being algid, no water must be given. This not only kills the germ, but at the same time increases the phagocytic action of the blood.

As a safeguard, this treatment should be repeated for a few successive occasions. The organism must be destroyed in the blood; if not, it will exhaust itself by other channels. As a rule it reacts favorably to this treatment.

There has been lately much discussion regarding the types of malarial fever.

As we find it in this country, there is only one germ, one parasite which enters the body in three different stages of development, giving rise to three distinctive types of fever—quotidian, tertian, quartan—the respective stage of germ growth can be detected in the blood of all malarial patients prior to the rigor; the relationship is clear between the amebic, the sporulating and crescentic varieties of the plasmodium.

One thing is certain, that if the concentrated tincture of kurchicin be properly administered to any one infected by this microbe, the germ in any or all its stages will die.

Excellent results are obtained by prescribing three teaspoonfuls of the con. tincture of kurchicin in three doses, during the hour prior to the chill. If the stomach is irritable, three or four drams per rectum has a decided action.

There is only one species of the malarial parasite which is polymorphous, presenting slight differences in structural character in the different types of this fever.

In the *quotidian form* the parasite is of small size, even before sporulation takes place in the centre of the red corpuscle, and passes through its cycle of development in twenty-four hours.

In the *tertian form* the cycle of development is forty-eight hours, the parasite larger, occupies more of the red corpuscle.

In the *quartan form* the cycle of development is seventy-two hours. In the three forms the microbe is the same structure, modified by conditions of growth and segmentation. The invasion of the red corpuscles of the blood takes place in every type. All have a malignant tendency, all penetrate the central capillaries, and the meshes of glandular organs are filled with them.

There are many methods of treatment, of complete annihila-

tion of the parasite in the blood encapsulated in the red discs. These modes of cure it is unnecessary to describe, although successful, as they do not harmonize with modern ideas and facilities.

The malarial parasite is too well known, its peculiarities and growth too clearly elucidated in the minds of all educated American physicians, for any charlatan to try either an expectant or specific fraud upon it. The entire treatment is narrowed down to two remedies, either cinchona or its alkaloids, or kurchicin, administered either orally or per rectum. The dose to do the work is all important, the method of administration something. Pills, tablets, insoluble compounds must be discarded, and whichever remedy used should be in a liquid form and warm, and three distinct doses should be given before the rigor, beginning one or two or three hours ahead.

Synthetical quinine is a fraud, never should be administered, the pure alkaloid from the Peruvian is the article; a few grains dissolved by the acid of the juice of one lemon in a teacup filled with Mocha coffee answers well. If the concentrated kurchicin is used, teaspoonful doses in tepid water. If the rectal method is to be tried, the bowels must be thoroughly evacuated by some saline and enemata used to cleanse out the rectum and three distinct doses, suppositories inserted, at distinct intervals prior to the rigor.

MALE FERN.—This invaluable anthelmintic consists of an ethereal extract of oleoresin extracted from the rhizome. This is the only preparation fit for medicinal use—it is a thick, dark-green liquid, has the odor of the fern—nauseous, bitterish, acrid to the taste. On standing, a granular, crystalline substance appears on the surface, which is the active ingredient, and should not be separated.

Dose from 30 to 60 grains is the proper quantity, administered in capsules.

If capsules are not acceptable, it may be administered conveniently in the following combination: Ethereal extract male fern 60 grains, rubbed up in mucilage of gum acacia one ounce. To be taken at a dose, followed by copious drinks of slippery elm. Castor oil to be taken two hours afterwards.

MALIGNANT EDEMA.—A fatal disease of animals, communicated to man, by contagion and infection, closely resembles the anthrax bacilli, but differs a little by their greater breadth, habits, and peculiar segmentation.

The edema bacilli are apparently extremely widely distributed in our surroundings. They appear to be present in almost all decomposing substances in greater or less numbers, and they perhaps also take a definite though limited part in the putrefactive process. As is shown by the behavior of the pure cultivations, the edema bacilli have the power of energetically peptonizing albumen, and possibly also of further breaking up the albuminous molecule. A more accurate analysis of the nature of the decomposition is as yet wanting, at all events the edema bacilli pass through their characteristic cycle of development as saprophytes. In accordance with this, we find them in the most putrid substances, in the bodies of animals which have died of suffocation and have then been kept at a high temperature, in the feces, and in the intestinal contents; their spores are present in every specimen of earth which has been impregnated with putrid fluids, etc.; they are also found in the dust of rooms, in the dust of rags, of hay, etc.

At the same time, also, the edema bacilli possess pathogenic properties, and by means of these their presence can be most easily demonstrated, and they can be most readily isolated from the mixture of other saprophytes.

Many sudden and mysterious deaths take place from the consumption of putrid meat and fish, and microbial sausage. There is no degree of vital force so great that can afford immunity against the ptomain alkaloids.

MAMMARY GLANDS.—MASTITIS.—Acute inflammation of the breast is ushered in with swelling, tenderness, rigors and fever.

Suppuration is indicated by additional rigors; usually occurs during lactation.

Remedies.—Aconite, belladonna, bryonia; passiflora, open the bowels freely; give comp. conium pill.

General Measures.—As soon as hardness appears, poultice with linseed meal, and change every three hours; while changing rub the breast with ozone ointment and extract of belladonna, from the circumference to the centre. Keep this up during the night; smear the breast with concentrated ozone, and apply poultice; keep the breast firmly pressed. If abscesses form, open in the most depending part.

CHRONIC INFLAMMATION.—Is generally limited to a few lobes, which swell and become hard; not much pain; put belladonna, rubbed up in ozone ointment, during the day, and concentrated ozone over night; cover with oiled silk.

ATROPHY AND HYPERTROPHY OF THE MAMMARY GLANDS.—Defective nutrition is the common cause of atrophy, which is best remedied by tonics, most nutritious diet and the application of the saw-palmetto ointment to the atrophied gland; friction and electricity being of little utility.

Hypertrophy is an increase in volume of the organ from an excess of nutrition of its constituent parts, which in other respects retain their normal character and consistency—there is really no enlargement of all the normal constituents, but morbid products, adventitious tissue, are thrown out in its texture, such as fatty or lipomatous cells.

To correct this condition of enlargement, from whatever cause, the ozonized pokeberry juice, rubbed up either in ozone or resorcin ointment, spread on cloths and kept applied to the entire gland, day and night, is much more effectual than all preparations of iodine or mercury. The application, bound firmly on, not in any way to interfere with respiration, spread fresh morning and night and persevered with for some months, never fails in effecting the result.

MASTODYNIA.—Neuralgia, in a perfectly developed female breast, is either predisposed to by a depression of the great sympathic nerve, by the toxins of disease germs, or directly from blows, shocks, jars, concussions; the irritation of some article of dress; reflexly from some exhausted, irritable condition of the uterus, ovaries, clitoris; from excessive drain upon the lacteal secretion.

An indelible neuralgic stamp upon the nerves of this gland is benefited by the administration of full doses of passiflora incarnata, and locally by applying the jelly of violets, followed by either coca, kephalin, avena or simabicidia.

If due to any uterine irritation, reflected, few cases can resist the action of the boroglycerid pastils and cocain suppositories, with the wine of aletris farinosa internally, with one application of the violet jelly.

If due to local irritation, the violet of jelly is the best of all applications.

If due to excessive lacteal secretion, belladonna locally.

If due to sexual excesses, gelsemium and salix nigra.

MAN.—The Caucasian man, on account of his great nerve sympathetic development, is liable to many maladies not indigenous to other races and woman, such as cerebral disease, laryngitis, carditis, etc.

The recent discovery of so many definite products for the restoration and maintenance of a high grade of vital force suggests the idea of a higher type of manhood and some of the means of acquiring it.

Every man, let him be ever so healthy, ever so conscious of perfect health, should never enter the marriage state without due preparation.

As the voice, skin, hair, mental and physical characteristics of youth change at the period of puberty, so does the system, mental and moral, change upon marriage. At puberty new diseases show themselves, some of the older disappear, so at marriage a like change takes place.

Every man who, in early life, has injured his procreative powers by either abuse or excess, or exhausted his nervous system in any way or undermined it by the presence of the venereal microbe should, for a few months at least, undergo a special tonic, strengthening, cleansing course.

If, in his youth, he has been guilty of masturbation, he should at least for four months take protonuclein thrice daily, alternating weekly with cerebrin and spermin, to repair the lesion, if there be one, give tone and vigor to devitalized parts, fortifying the system, rendering it favorable for the production of vigorous offspring.

If, perchance, by some early indiscretion the venereal germ has ever effected an entrance—if a solitary spore or toxin lingers in the blood—it will damage, dwarf humanity in its very bud, deforming its very form or essence. It should be eradicated by a prolonged course of comp. saxifraga; the spirit of humanity demands that much.

Many other new remedies might be suggested, all bearing on the vitality of the mother cell.

Most men between fifty and sixty years of age, apparently healthy, are often compelled to urinate during the night, once or more frequently, and may have a delay in starting the stream. Usually this meagre symptom is the first indication of an enlarged prostate, a very common condition in elderly gentlemen. Simultaneously with this he finds his sexual power declining, and he cannot understand that an enlarged prostate is the cause of it.

As age progresses, the gland increases in size, it becomes infiltrated with fibrous tissue, quite hard, presses upon and deprives the sexual nerves of their circulation, produces paralysis of these nerves; hence impotency.

Just at this point nature furnishes a remedy in the eleoresin of the saw palmetto made into a suppository.

If the profession could be made to realize the potent influence of these suppositories upon the prostate; that if prescribed for a patient and used steadily, year in and year out, the eleoresin in this form will prevent the formation, as well as rob the prostate of its adventitious tissue or deposit, and thus keep modern men in ease and comfort to a ripe old age.

Usually one suppository on retiring is sufficient. It must be retained, when it will melt, run all over the affected parts, reducing inflammatory action as it spreads, toning, strengthening, revitalizing the sexual nerves.

Later on, when marked hypertrophy takes place from such causes as withdrawal, immoderate coition, gonorrhea, gleet, stricture, masturbation, exposure to cold, wet; recipient of blows, injurious injections, introduction of instruments, excessive use of stimulants, the saw palmetto is not of much efficacy, as we have indurated fibrous tissue to deal with.

In confirmed enlargement, the sexual nerves are involved, weakened as in impotency, while the hard, infiltrated substance of the prostate keeps the mouths of the seminal ducts patulous, open, and the nervo-vital fluid runs away into the urethra, either to maintain a moisture, or a leakage, to be swept away in the urine, without any impediment.

Soon this continual loss tells upon the brain, spinal cord, the entire nervous fabric, the general health and upon the testes, where it is stored. Vitality is blighted, no fertilizing fluid for the brain; semen is thin, watery, infertile, and the genital organs are weak, flabby, like an old dish-rag, owing to the great nervous tear and wear.

It is here, in confirmed hypertrophy, where the ichthyol and boroglycerid suppositories do immense service.

This is the plan of procedure: After the morning meal, the patient should wash out the rectum by means of a fountain syringe and a quart or two of warm infusion of flaxseed; after all has been passed, insert a boroglycerid suppostiory, one hour later an ichthyol suppository. Repeat the same after the noonday meal, and before retiring for the night. During the day insertions patient must maintain the recumbent position for an hour subsequently.

It is the only cure, so far. To remove a man's testes as a cure for hypertrophy of the prostate is truly a mean affair. True, it will cure, but when they are removed the brain is

deprived of a secretion without which it withers, dies, and he becomes hopelessly insane. Such is science.

With disintegration of those adventitious elements in the prostate, sexual power and vigor returns. Its restoration can be promoted by the administration of some of the following remedies, which the attending physician may select, namely, kephalin, avena sativa, c. p. solution of spermin, thyroid extract, muria puama, ambrosia orientalis, comp. tincture matricaria.

MASSAGE.—Properly performed, of the entire body, increases the blood, energizes the nerves; the mere mechanical effect is good; better the reflex effect on the vasomotor centres in raising the standard of vitality. Properly conducted massage flushes the blood-vessels, increases nutrition, for a larger amount of blood flows through the manipulated tissue than formerly. Accompanying this, increased blood pressure, strengthening of the pulse rate, a rapid removal of tissue waste; an augmentation of the red corpuscles, which increases cutanous respiration and a greater avidity for oxygen. The lymph-stream is accelerated, and the heart participates in all the benefits which arise from it, a proceeding never to be neglected in cardiac debility.

The mere emptying of the capillaries accelerates the return of blood through the veins, diminishes the resistance to the contraction of the left ventricle, consequently when the cardiac muscle is weakened or yielding to the strain of valvular lesions —*heart failure*—massage relieves, mitigates those distressing conditions, and at the same time husbands the vitality of the cardiac muscle; immensely aids recuperation.

Associated with this treatment, administer five grains of creatinin thrice daily, and at meals one kephalin granule; continue for several months. This treatment will relieve dyspnea, maintain and promote healthy nutrition of the heart-muscle.

In cerebral anemia our usual medical treatment is almost useless, and this very fact necessitates a complete change of procedure, a change that involves not only great expense but considerable inconvenience, as it involves the removal of the patients from the unwholesome moral atmosphere in which they have been living, away from sympathizing friends and neighbors; by a renewal of the patient's vitality by baths, brain food, and other nutrition, and causing its assimilation by positive muscular exercise; by resorting to

peripheral stimulation, thus stimulating the reflex centres, causing an increased cutaneous circulation, and thus improving nutrition. The treatment is physiological, and up to the latest discoveries in medicine, and involves the following heads:

SECLUSION AND REST.—This is absolutely indispensable to carry out the entire treatment in its most minute detail; the entire seclusion of the patients under a competent nurse, and their removal from old scenes, associations, and the morbid atmosphere of invalid habits which encircles them. Unless the patient is entirely removed from the injudicious sympathy and constant waiting on of friends, it is impossible to obtain the necessary control over them which is requisite for a cure. This point is to be made absolute; sever the connection between them even if it seems harsh and strange; no compromise on this point can be made, and if it is impossible to secure the removal, the isolation and perfect seclusion of the patient, better to have nothing to do with the case and its peculiar treatment, for even if they are isolated in a separate room in the same house under a competent nurse and visited by no one but the medical attendant, the case does not do so well as when apart.

There should then be a perfect separation from all moral and physical surroundings; the change is beneficial, and aids immensely in the cure. Following this is rest in bed, absolute repose, no reading, talking, looking at pictures, no sewing or knitting, not even allowed to feed themselves for at least six or eight weeks. Under this condition of rest the whole system becomes regenerated, and new tissues begin to form; it acts like a brain or nerve food; it restores lost energy, refreshes the nerves tired by worry, excitement or strain, and gives renewed vigor to the whole body. After this condition of absolute repose has existed for six or eight weeks, it may be broke or lessened, and then the patient be permitted to sit up several hours daily, and gradually this is to be extended. The old diseased habits are to be discarded and a new life to be inaugurated while the above is being faithfully carried out; the essential part of the treatment is also being fulfilled in the form of—

MASSAGE.—Simultaneously with the condition of seclusion and rest being commenced, this, the really indispensable part of the treatment, should also be inaugurated: the entire surface of the body of the patient morning and evening to be thoroughly sponged off with castile soap and water, and well dried by the nurse, and thus made ready for massage. This is to be performed by a young, healthy, vigorous person, full of

vital force, intelligent, and well posted in his or her work. Massage should be commenced the first day, half an hour in the morning, and same length of time in the afternoon, the duration of time increased daily, until two and a half hours are thus occupied morning and evening, making five hours altogether daily, and after its performance each time, one-half or three-quarters of an hour of electrical manipulation to follow. This massage is to consist in taking a leg and thigh, beginning at the toes, foot, leg up to groin, first rubbing from the extremity up; then grasping the parts between both hands, from foot up, moving each joint as you go along; then a careful, pains-taking kneading from the sole of the foot up, manipulating the joints well; this is to be followed by beating or patting with the fingers of both hands coming down on the part at the same time, and the whole to be followed by a rubbing with the points of the fingers, always moving the joints. After one limb has been well done, then the other; then one arm, then the other; the back, and latterly the abdomen, spending upon each a little over half an hour. If there is great sensitiveness, it is often best not to spend the entire time on one member at once, but to go from one to the other, going over each several times. The intensity of massage will depend altogether on the sensibility of the patient. In no cases is there any violence or roughness to be used; neither is the skin to be irritated nor much redness induced. During this manipulation, the patient is to remain perfectly passive—not to make a single effort; all to be done by the operator. This systematic shampooing, grasping, kneading, patting, beating and exercise of all the muscles and nerves of the body, extremities and trunk of all the muscles and nerves of the body, extremities and trunk, has a magical effect. Its advantages are, the peripheral nerve stimulation carried to brain, cord and other centres, raising the standard of central vitality, the vital force or stamina of the operator is planted into the nervous system of the patient by reflex emanation; all his reserve vitality accumulated are thus given to the devitalized. Nerve action in all cases is vibratile; in anemia of brain an abnormal series of nerve vibrations are set up. This is at once changed by massage, which restores the healthy, mechanical vibrations to the nerve; carrying the same state of vitality to the centres, it thus relieves wandering, erratic pains and neuralgia, strengthens the nerve centres, and gives renewed vigor in all diseases of nervous exhaustion or debility; it stimulates the cutaneous circulation,

the muscles are exercised without the expenditure of nerve force; the reflex stimulus carried to the medulla oblongata gives greatly improved vitality, and the psychological condition of the manipulator, as well as his vitality, is implanted in the patient. To do it effectually, requires a well-educated person, of fine mind, strong will, solid determination, sound vigor, and of high vitality. The party who does the massage should have nothing else to do but walk around, eat well, and acquire all the vitality possible, so as to communciate it to the patient. The regular nurse, tired and wearied with his peculiar avocation, should never be permitted to perform the massage. There is to be no oleaginous body used by the operator, as that destroys or breaks the vivifying current.

After the first application the patient will feel sore and stiff, but this will soon wear off in a few days. Although we inculcate gentleness, still it must be efficient; this feeling of soreness will soon pass off, when the patient will enjoy the manipulation amazingly, and after it is performed will have a pleasant sense of exhaustion followed by refreshing sleep.

ELECTRICITY.—This should follow the massage, and is to be used simply as a means of exercising the muscles. The interrupted current should be employed twice daily, from half an hour to three-quarters of an hour. The poles armed with wet sponges squeezed out of salt water, so as to carry the electricity away down into deep parts, are to be placed on the muscles to be operated on in turn, beginning at the leg and going up, taking each muscle in turn. The sponges with the poles should be placed four inches apart and moved slowly up and down the muscle until it contracts fully and freely. This is somewhat painful and annoying, but it is of unquestioned utility in long-standing cases of cerebral anemia, especially where there is wasting or muscular paralysis. It is not to be used about the neck or head, and it should never be rubbed about indiscriminately, but simply applied to the muscles.

REGIMEN AND DIET.—These form an important and essential part of the cure. All this class of patients are but living skeletons, skin and bone; white, anemic, wasted, emaciated, neither able to sleep nor walk; suffering a living death, mocked at by ignorant physicians who are too superficial to understand their case. And it is perfectly astonishing to see how the treatment tends to recuperate and rejuvenate them. Once the patient is secluded, it is well to cleanse out the bowels and begin with a milk diet exclusively for a few days. This should be

given every two hours in sufficient quantities, which they are able to consume and perfectly assimilate, usually from three to four ounces. After two days of the massage, the amount can be increased to eight or ten ounces, so that within the twenty-four hours from two to three quarts of milk will be consumed. There is no difficulty in getting rid of that quantity even if there is dyspeptic symptoms, for they disappear like magic, and flesh, strength and increased weight are visible to the eye from day to day. As soon as the manipulator reaches five hours of massage and an hour and a half electricity daily, one-half in the morning and the other half in the afternoon, then the diet is to be increased by the following additions, which are greedily taken, thoroughly digested and assimilated into brain, muscle and other tissues. The following schedule will give an imperfect idea of the diet list or something near it:

Every evening during the treatment there should be made beef tea, say a pound and a half of fine lean meat, chopped fine and water sufficient to obtain ten ounces; this should stand over night so as to be ready for use at five a. m., when, after the patient is sponged off, a portion of it should be taken with a soda-cracker. This meat extract should be seasoned to suit the taste, and parsley, if in season, added to it.

At five a. m., beef extract with cracker, to be followed with two and a half hours massage and half an hour electricity; to be followed with a bowl of oatmeal porridge and cream.

At nine o'clock a. m., breakfast, consisting of toast and butter, soft boiled eggs, corn bread, broiled beefsteak and coffee.

At eleven a. m., milk.

At one p. m., dinner, consisting of boiled white-fish, chicken, mutton chop, broiled beefsteak, vegetables, fruit and cream.

At three p. m., milk, to be followed with massage and electricity for three hours; to be followed with beef extract, fish, biscuit or milk.

In other words, a system of feeding consisting of brain elements, and that to excess.

In this treatment, which is so successful, the massage is the dominant agent, and the question is, how does it work? The vital stimulus of the rubbing, patting, kneading, shampooing, is imparted to the superficial nerves. This passes along the nerve tubes by means of the pulp to the gray matter of the spinal cord, where, by the influence of the ganglion through which it runs, the supply of blood to the nerve cell is regulated. In the cell of the gray matter of the cord a vital electrical con-

dition is established which travels along the spinal cord to the brain, which is toned up and receives more blood. Every rub, every vibratory thrill gives a myriad of tonic phenomena, which causes the anemic capillaries to become filled with blood rich with brain elements, and a renewal of life in the weakened tissue promoted. This treatment, simple as it looks, needs the supervision of a medical attendant of great skill. The time necessary to accomplish a cure is usually about twelve weeks, unless in old cases of paralysis, which may require a longer period.

Is this treatment reliable? Assuredly it is. Not only reliable, but endorsed by the highest medical authorities, and thousands of hopeless cases of disease have been cured by it. It is no experiment. The nervous system is the controlling agency by which development is perfected, and the animal magnetism of the operator is the mysterious force that rouses it into action. No drug, no remedy but this can quicken the benumbed and paralyzed limb or faculty like the invigorating stimulus of intellectual animal magnetism. There is an affinity in all cases of debility to absorb or draw from the stronger around, to imbide their nerve vigor and thus rouse their own dormant activities. The system of cure as laid down above comes right in among a class of diseases in which all remedies fail. For there is no drug or mechanical contrivance that can induce a healthy vibratory action of the nerves with living, thinking matter, and bring a new power to the deadened nerve forces but this.

MASTURBATION.—An excitement of the genital organs in either sex, by the hand, a habit which produces the most disastrous form of brain wreckage, as is seen in the widespread neurasthenia, chorea, epilepsy, paralysis, imbecility, insanity; a morbid state of the sexual sense, which is either hereditary or acquired. It gives rise to intense cerebral and spinal anemia, with all their horrors of despair. The repeated draining off of the vital fluid gives rise to suicidal mania, and renders its victim ambitionless, a cipher in this sphere of existence.

Best treated by general alteratives and tonics, keeping the secretions active, daily baths. Our best remedies are an aphrodisiac, of which tincture of the green root of gelsemium is the best. It should be adminstered in large doses, so as to cut off for the time being all erectile power and sexual desire. Ozonized extract of black willow bark; very large doses of passiflora incarnata; suppositories of salix nigra are excellent; urethral

bougies of black willow, belladonna, digitalis, hyoscyamus are of utility. As soon as the abnormal appetite is appeased "avena or kephalin" should be administered in small doses to build up a more vigorous and healthy brain nutrition.

THE EFFECTS OF MASTURBATION.—The ulterior results of self-abuse are a complete wreckage of the generative organs, infertile semen, impotency, cerebral failure, and other maladies. One effect which is becoming very common at an early period of life, is sarcoma of the testis. This is usually neither noticed early, nor properly treated when diagnosed, made light of, attributed to injury, but the common cause is either masturbation or cyclism.

The progress of these cases is usually as follows: The testis enlarges without pain at first, maintains its normal shape, and forms a highly elastic swelling, which gives a deceptive sense of fluctuation, with a loss of normal testicular sensation and pain. The skin is usually stretched in proportion to the size of the growth, although not always implicated, but when adhesions form, ulceration speedily, nay, inevitably takes place, and the tumor fungates, as a bleeding mass. Later on the spermatic cord is enlarged, and the lymphatic glands of the iliac and lumbar regions are infiltrated. Gradually the general health becomes impaired, much emaciation, debility, and the affected individual dies from implication of the viscera.

An examination of the testis in an early stage shows that the growth commences to grow most commonly in the posterior portion of the gland, and that the testicular structure itself is often spread over the anterior surface of the tumor. The tunica albuginea at first stretches, but after a time gives way, and may thus allow hemorrhage to take place in the cavity of the tunica vaginalis. This is an occurrence of some clinical importance, and it is well to remember that hematocele may complicate a sarcomatous growth, for in cases in which the diagnosis is difficult the discovery of blood in the tunica vaginalis might otherwise lead to error.

On section, a sarcomatous testicle is very soft and pulpy, either opaque-white, pinkish, mottled, or gelatinous and semi-transparent; the spermatic cord may be infiltrated with similar growths. The iliac and lumbar glands often form a series of immense tumors, and the liver, kidneys, lungs, and other parts may be infiltrated with numerous secondary masses.

A microscopical examination usually shows a large, round-celled growth; but in some cases the cells are oval, or spindle-

shaped, in others mixed. As a rule sarcoma of the testis grows rapidly, and rapidly involves both testes.

The direct effects of masturbation are to drain off the nervo-vital fluid, so necessary to make the man; the indirect effects, the production of neurasthenia; the reflex effect, a damage to the spinal cord, a central brain lesion, a devitalized great sympathetic, especially that portion of it which covers the anterior portion of the heart.

This in time gives rise to organic cardiac disease; how soon this is effected depends upon the frequency, the intensity of the irritation and the greatness of the blood pressure.

Slowly but progressively in such cases cardiac disturbance is variable, generally pain, anxiety; frequent troublesome palpitations, shortness of breath, sinking. With variable heart's action, slow, often irregular and unequal.

The remedy for heart failure in the masturbator or those guilty of sexual excesses is matricaria. A true vitalizing agent and restorer. In urgent cases, small doses, often repeated, are the rule; keeping the patient as quiet as possible, so as to avoid all arterial excitement, emotional disturbance, shocks. Individuals suffering from heart failure should be warmly clad, should take rest before meals. If there be faulty nutrition, give matricaria; if there be constipation the kola-nut paste.

Weak-hearted people are benefited by a diffusible stimulant, carefully given; it prevents degenerative processes.

The one from which I have derived the greatest benefit is oil of cajuput in doses of six drops, rubbed up in mucilage. It can be combined with either the passiflora or the matricaria; it is a quick, powerful, safe, arterial stimulant, much to be preferred to either the nitrate of sodium or nitroglycerin. More reliable than cactus.

The act of masturbation depreciates all the vital attributes of manhood; even if the practice be abolished, its stamp of degeneration is there, blind in name and morals, with a cataract covered conscience. If he chances to have offspring they are really unfit to enter the arena of life, as they are unstable, viciously endowed, mentally crippled.

All the mental and physical defects induced by alcoholic conception, all the degenerative changes stamped upon the organism of a child whose father has committed masturbation, can now by the modern light of scientific medicine be rectified by the administration of the ozonized thyroid extract.

Its administration has a powerful effect upon both the phys-

ical and mental systems, especially if imperfectly developed or in any way suffering deterioration.

Administer if possible early in life and continue its use for a reasonable time.

Next in value, to rectify the chaotic cerebral condition of the masturbator's nervous system, are kephalin and avena, either in liquid or granular form; it operates invariably well in favoring the evolution of a rich crop of active spermatozoa; c. p. solution of spermin is a most reliable preparation in such cases and never should be omitted in the cure of the damage done, and especially if there be atrophy of the testes and other parts.

MEASLES (*Rubeola*).—An acute, specific, contagious disease to which children are liable. It is not so contagious as scarlet fever. Incubation period, seven to ten days.

This microbial fever originates by contagion and infection—the microbe or contagion is given off from the skin and breath, and lungs, persistently to books, clothes, furniture; hence it is spread more by one child to another and the clothing of individuals who have access to such cases than by the air.

Its diagnosis is easy, a stage of incubation of from seven to fourteen days, with languor, lassitude, debility, and sprouting; proliferation and ptomain excretion take place during the three days of fever, after which the microbe emigrates to the skin, where it appears for four days. During the premonitory stage, coryza, that is watery discharge from the eyes, nose, sneezing, some cough; headache, tongue white coated. These symptoms become aggravated during the stage of fever. When the eruption appearance on the fourth day of fever is on the face, it feels tense, rough, irregular, elevated in patches.

With the microscope round cocci and diplococci can be detected in the watery discharge, also in the sweat, saliva, and in the eruption of all patients who have measles.

The germ is pathogenic, bears culture well. Cultures either injected subcutaneously or fed to animals reproduce the disease.

A point in diagnosis much overlooked is the appearance on the buccal mucous membrane of small, irregular red spots, with a bluish-white centre. They are entirely different from the reddened mucous membrane of scarlet fever, the whitish specks of aphthæ, or the ulcerated state of stomatitis. These spots on the buccal mucous membrane are seen early and lose their characteristics when the eruption appears.

In German measles the catarrhal and bronchial symptoms are slight, sore throat more decided, the rash appearing on the first and second day as a diffused red blush, or small red spots, which do not form crescent-shaped patches, desquamation being scarcely visible.

The absence of catarrh and bronchial irritation, the temperature and pulse, the intense sore throat, strawberry tongue, the smooth, silky feel of the eruption, and the greater tendency to nephritis, are diagnostic marks of scarlatina; whereas the twelve days of incubation, three days of fever, with a papular eruption, pain in the loins, and the special odor, nausea and vomiting in the early stages are characteristic of variola.

It is high time that the profession impressed upon the people that measles is by no means a trivial disease; in all its stages and under all conditions there is danger, and no child, no individual of feeble vital force should be exposed to its entrance into their bodies, for the microbe is a protozoa and, like all organisms of that class, depresses the tissues in such a way as to enable other pathogenic organisms to gain an entrance into the body, such as the implantation of otitis media, bronchitis, pneumonia and others, which not infrequently follow measles, and from which the conferva, pneumococcus and other organisms of suppuration can be isolated.

It is therefore no trivial disease; every care should be used to prevent its dissemination.

During recent epidemics a complete change of treatment has been effected, the old-fashioned diaphoretic teas, aconite and asclepias, are laid aside and ozonized passiflora incarnata and sulphide of calcium are administered in alternation in proper doses to influence or stay the process of bacterial life. A patient on proper doses of these two will have no complication, no bronchitis, pneumonia, inflammation of the eyes, ears, nose, neither will there be any tendency to gangrene. Our space prevents us giving the treatment of several thousand cases of measles with these two remedies.

Passiflora incarnata, although not a narcotic, quiets and calms the nervous system in measles, it favors a restoration of vital force, uncouples the chain of neurosis, relaxes protoplasmic tension or tone; it improves the quality of sleep, aids in its prolongation, entirely controls fever, a therapeutic agent of rare value.

Besides simple measles, there is a malignant or suppressed form, which is more severe, and in which the rash is less well marked.

Measles may be complicated by bronchitis, pneumonia, inflammation of the eyes, ear, or nose, and the gangrenous diseases of the mouth and genitals known as cancrum oris and noma.

Measles, German.—Epidemic roseola. A distinct disease, which is more contagious and is less serious. It generally lasts only four or five days. There is no catarrh, the rash is not so crescentic, the temperature is lower, and it is altogether milder than measles. There is usually some sore throat.

MENINGITIS.—Inflammation of the membranes of the brain is usually an affection of infancy and may originate from falls, blows, mechanical violence of all kinds, reflex irritation, teething, worms, burns, the presence of the germs and toxins of tubercle and syphilis, and it may be a sequel or complication of various diseases in more advanced life, such as otitis, typhoid fever, pneumonia, epidemic influenza.

Characterized and ushered in with rigors, high fever, headache, stiffness of the neck, vomiting, rigidity of the muscles, opisthotonos.

The absence of the diplœtic structure in the skull renders children more obnoxious to it. If death should occur, the whole surface of the brain will be found covered with a fibro-purulent exudation.

A headache aggravated by noise, heat, light, motion, needs darkness, rest, seclusion, with cool temperature. Head shaved; anodyne, evaporating lotion, consisting of ammonia, passiflora, iodine. Sponging entire body thrice daily; dry mustard in stockings to knees; aconite; veratrum; passiflora; periodate aurum, enough to give free biliary evacuations, several daily; iodide and bromide of potassium.

MENOPAUSE (*Change of Life*).—According to the last census, there were three millions of women in the United States, between the ages of forty-five and fifty, undergoing the change of life; and this number is annually kept up by fresh recruits; so that we have, at all times, about that number. The importance of the period, the history of suffering endured, cannot be approximated; neither have its diseases been adequately investigated.

The terms, change of life, turn of life, critical period, etc., are understood to mean a period of life beginning with those irregularities which precede the last appearance of the men-

strual flow, and ending with the resettlement of health on a new basis. This is usually divided into a premonitory period, the actual stoppage or cessation of the flow, and the adaptation of the system to the change. The first indication of failure of ovarian energy or ovulation is irregularity; when the failure is complete, perfect cessation.

Although it is termed a critical period, it is not to be deemed fatal, if the patient's system is healthy. It is a gradual change, leading to better or worse; to complete recovery more frequently than to death.

The streams of life, instead of flowing on in a smooth, tranquil current from the cradle to the grave, are marked by rapids, or milestones, which are critical, metamorphic, or developing epochs. Seven, fourteen, twenty-one, are clearly and distinctly written on the first part of life; forty-two, forty-nine, and sixty-three, are less deeply cut, but are distinctly visible in the later period of life. Those periods are characterized by important changes, which give a peculiar aspect to the physiognomy of the human body, and impart a family likeness to the diseases of epochs justly deemed critical, in which one or several organs of the body undergo changes. The object of each critical change in our bodies is to insure the greatest amount of health for each subsequent period of life. This object, if the vital forces are of average strength, is effected quickly; but if there be debility or disease, then there is more or less disturbance, according to the degree or intensity of that state. The critical changes of dentition and puberty are frequently brought about without any disturbance or ill health; nevertheless, they are often followed by debility. At critical periods, the activity of important apparatus may be too powerful, and disturb other organs, or too feeble to react on others. When the energy of the preponderance-seeking organ is above or below par, health may be impaired. With regard to the influence of critical periods of life, first and second dentition influences both sexes alike, and in the same way. Puberty is common to both; but the impulse given to the constitution of man, by the perfect development of the sexual apparatus, is, in general, fully effective, and all-sufficient to insure its permanent activity until extreme old age; whereas, in women the crisis is very liable to be delayed, or perverted; and even when puberty has been fully and effectively established, the health of woman is dependent on those oscillations of vital force, which render it most uncertain. The

chemical activities of a womon cause her to mature early; the inertia of man's nature renders him slow, late in maturing. The same inherent qualities of sex give woman an early change; whereas, man's change is delayed (if not too early precocious) till a good old age, he being capable of begetting children to seventy or eighty; whereas, the moment a woman changes, fecundity ceases. It is true that children begot by very old men are of very feeble vitality. Although most women change at forty-five or forty-seven years of age, it does not follow that sexual appetite is extinct. Sexual congress may not be enjoyed by some, whereas others never have a warmth of feeling until the change of life takes place. The large proportion of women, on cessation taking place, become callous, indifferent, lose their sexual vivacity and vigor.

Menstruation, healthy or morbid, marriage, pregnancy, parturition, and lactation are critical eventualities in a woman's life, curing some complaints, giving greater activity to others; and when, after having lasted thirty years, the action of the reproductive organs is being withdrawn from the system, then there arises a series of beautifully adapted critical movements, the object of which is to endow a healthy woman with a greater degree of strength than that which she had previously enjoyed. But this will not occur if there are disease germs lurking in her system, such as cancer, tuberculæ, syphilis; then the seeds of those germs, when vital force is low, are liable to become active, and destructive; because the very essential of the change, debility, brings them into active growth, and causes them to locate and grow in the very organs in which the change is progressing. The change stimulates their growth; imparts to them fresh activity. So, as a rule, it is at this period we meet with the greatest proportion of cases of cancer of the womb, and breast, adenoma, and other tumors. The change of life is only critical to the diseased. It is only them that need fear the crisis. To the healthy, to those who live according to natural laws, eat healthy food, avoid balls, avoid tight lacing, bad literature, and sedentary occupations, nothing is to be feared. It is well to make no haphazard prediction, but if there is no disease, the process will not be critical. True, the disease may be got rid of: if so, it will mitigate the condition. The change does not cause disease; it detects it, brings it into active existence, and causes an aggravation of it. Thus, congestion of the womb, chronic inflammation of the ovary, etc., existing at the change, become excessive. Disease has little tendency to leave, or become inactive or quiescent during the change.

The critical nature of a period is shown by its effects on the health in ensuing years. Thus, puberty is not only a crisis of most of the complaints of the preceding years, but it determines the health of the subsequent thirty-two years, for good or evil. In like manner, the change of life, if it can be consummated in a salutary manner, will influence the succeeding period; nay, it will govern the whole subsequent period of life. So we can prognosticate, from the manner of the crisis, whether the after-life shall be good or bad. Five years after a woman ceases it tells its own tale in the great additional strength of constitution. The greater sanative change, the greater longevity of woman after the period, her less liability to disease, and death, her very remarkable good health, and almost total immunity from the general run of ailments render her last stage of existence a comfort and a blessing.

From forty to forty-five is a general period of invigoration for both sexes—a period in which the daily work of nutrition is very actively carried on in our bodies, rendering them stronger, more vital, healthier, and thereby insuring a more perfect performance of all the functions. The change in man is carried on insensibly and worked out without disturbance. In woman the passage is often full of danger, if natural laws have been violated, but the very great improvement that follows the change is so salutary as to compensate for all the suffering.

Although the phenomena of change of life are principally due to withering of the ovaries and suspension of their function, it is aided by and associated with other structural changes, which take place in both sexes, due to coming age, such as the ossification of the cranial bones; atrophy of spleen, and lymphatics; changes in bone, marrow; degeneration of some form; a smoothing down of Peyer's patches in the bowels, and some shrinkage of the brain proper. But after cessation a woman's constitution is entirely remodeled; she takes a new lease of life; decay and suffering has then less hold on her, and she begins anew. The importance of the change cannot be too highly rated, especially if easily passed; for if it is accomplished without much disturbance, so will the future period be healthy; but if gone through with great suffering, then we may expect the subsequent time to be one of long-continued misery. It is a final settlement for good or evil, and it may be reasonably entertained that if it does not excite the activity of some disease germ in the body which previously existed there in a quiescent

state, and the violence of the change be not excessive, it is reasonable to conclude, from thousands of pre-existing cases, that the rest of life will be passed in uninterrupted good health, and unusual longevity attained. The invigoration of the health which follows is often accompanied with a great improvement in personal appearance—where the thin and emaciated become fat and comely, where the timid become bold and daring; while another class become masculine, and lose their feminine appearance; their cheek bones project, the skin loses its velvety feel, creases show themselves, and stray hairs start on the upper lip or face.

The effects of a suspension of ovarian action has a marked influence on all the emotions, desires, affections, passions, as well as on the brain proper, giving rise to debility, prostration, nervous irritability and confusion.

Puberty and change of life are caused by physiological and anatomical changes in the same organs; puberty is ovarian evolution; the change of life involution or stoppage. The true seat of both is in the reproductive centre in the brain; the one growth, the other death to that special centre; the ovaries being merely the organs to perform the work.

When, with proper age and perfect blood development, this co-ordinating reproductive centre in the brain matures (puberty) the seed or egg organs, the ovaries, increase in size, become very vascular, and begin to let fall ovula or eggs every twenty-eight days, and cause in modern civilized women menstruation. When the reproductive centre in the brain dries up, which it usually does after thirty-two years of activity, the change has come; the ovary or egg-bed, which during the active period was smooth and turgid, becomes dried up, shrunken into a knot like a peach-stone, and it becomes difficult to trace the cavities of the Graafian vesticles, for their walls are pressed together. A few years later they shrink; wither still more; become atrophied, so much as to be no larger than a bean, and latterly completely obliterated, being marked by fibrocellular tissue. This ovarian atrophy, or shrinkage, or wasting, or withering, comes from a want of germinal influence from the brain—there being no use for the organs, they wither and die. This change is accompanied with corresponding changes in the Fallopian tubes, determined by the same cause; these tubes contract, wither, become impervious and perfectly obliterated. The same condition of non-use, want of stimulus, or enfeebling energy causes the womb to contract, become small, round like an

orange; its neck becomes thinner, and shorter, and obliterated, and in some cases an obliteration of its mouth takes place. The vagina becomes very narrow, short, and there is a shriveling up of the pampiniform plexus of vessels which previously supplied the organs with blood, which accounts for the remarkable coldness of the parts. Incidental to this general collapse, the broad ligaments that retain the womb in its position also shrink and disappear. The breasts, which are a part of the reproductive system, also become cold, small, and wasted. During the change they are often seriously affected, being painful and congested, if not otherwise diseased. It would be a matter of infinite surprise how so many phenomena of health and symptoms of disease could be determined by two little bodies whose structure does not appear complicated, but the fact is unquestionable that not the bodies, but the brain, is the source or seat of change. The ovaries are energized by that nervous centre of sexual power located in the spinal cord, opposite the fourth lumbar vertebra, and supplied from the cerebral centre; but although a central act in the brain through the cord, there can be no perfect exercise of sexual power without well-formed and healthy ovaries. The ovaries influence all parts of the body (directly the cord and brain) through the medium of their nerves, for as they have both ganglionic and cerebrospinal nerves, they can react on both the ganglionic nerves and their centres, and the cerebrospinal and their central organs.

Whether the ganglionic be an independent system of nerves, or an offshoot of the cerebrospinal nervous system, it is not necessary here to discuss. All are agreed that vasomotor nerves follow every capillary to their minutest ramification and govern the nutrition of every part of the body. All organs of nutritive life are supplied with ganglia and a plexus of ganglionic nerves; but they all communicate together, and with a larger plexus and more voluminous ganglia, situated in the viscera of the abdomen. And before those foci of nervous matter were discovered, this region, that is the ganglia on the bowels, liver, spleen, bladder, kidney and reproductive organs, was called the lever of forces by which the body is moved. Sensation and motion are dependent on the cerebrospinal nerves, nutrition on the ganglionic; but there is a concentration of ganglionic nervous power in the central ganglia which gives and receives from each viscus a variable impetus. The ganglionic is a centre of nerve force, capable of controlling

and disturbing the various parts of the body by its nervous fluid or soul.

The human body is so constructed that the various component organs act upon each other in the way most conducive to health, until the age of puberty. At that time health may fail and the whole system languish, unless the reproductive organs come into full activity. From puberty to the change of life, the health of woman cannot be maintained without an energizing influence from the reproductive centre in brain and cord, so as to impart an appropriate amount of ovarian influence. If the ovarian energy reacts under proper nerve stimulus in a healthy way, it will augment, vitalize, energize the visceral centre, or brain, and cause the function of nutrition to be performed with increased energy; give vigor, instinctive consciousness of strength. If the ovarian energy be inefficient, the abdominal brain, the visceral centre of ganglionic action, is half or partially paralyzed, and uneasy sensations are felt at the pit of the stomach, a feeling of sinking, of faintness, goneness, or even actual fainting is sometimes induced; defective nutrition follows, with anemia of the cord and brain, vulgarly termed hysteria, met with at puberty, during pregnancy, lactation and change of life. If the brain does not furnish the necessary amount of ovarian stimulus, so that evolution is inefficient, the menses will come on in an irregular way, off and on and likely scanty; if it be too strong, as under emotion, passion, it will react upon the adjacent viscera and cause violent disturbance.

All the organs in the chest and abdomen are, on their front part, covered over with the cervical sympathetic, similarly endowed with ganglia or little brains. They are knit together by a mysterious network of nerves; they sympathize with each other at puberty, menstrual period and change of life, and in this way any disturbance of the ovaries, irrespective of reflex states, will give rise to nausea, sickness, depraved appetite and deranged bowels and kidneys. If the ovarian stimulus be too great for the allied abdominal organs, there may be pain in the ovaries themselves; pain, disturbing sensations, irritation which may be transmitted to a weakened cord and bulb, then hysteria, tetanus, nervous irritability, restlessness, hysterical convulsions, or there may be a numbness in skin and other parts.

The strength or relative weakness of the nervous system may be inferred from the condition of anemia of brain and cord

that is present. The solar ganglia in both sexes form an important centre of nerve force. Insufficient ovarian influence having reached the solar plexus affects the brain chiefly by means of the pneumogastric nerve, so any disturbing influence at puberty, pregnancy, parturition, change of life, may be shown by the distressing headaches, fretfulness, peevishness, irritability, capriciousness, perversion of the moral nature, moral insanity. In other cases, excessive or disturbed ovarian action is manifest by high spirits, or depression, a cloud or a weight on the mental faculties, haziness of mind, brain muddled, memory faithless and an unquenchable desire to sleep during the day, remaining awake all night, almost amounting to coma or lethargy.

From puberty to the change, healthy women, when not pregnant or nursing, drop ovules every twenty-eight days, and as a rule modern civilized women lose about four ounces of blood. But there are women in perfect health, who live according to nature's laws, eat healthy food, avoid modern literature as a destructive ovarian poison, that have perfect ovulation, are easily impregnated, and whose womb does not bleed on the shedding of the egg in the ovary and dropping within its cavity. Those women enjoy the highest possible standard of health. Indian women, in their aboriginal state, seldom lose blood at the monthly period, nothing but a white, glairy discharge.

Sexual involution has an ill-defined beginning and end, and only one fixed date, cessation. The activity of the menstrual period is usually thirty-two years, between fourteen and forty-six; but there are cases, once in a while met with, where the menses stop as early as twenty-one, twenty-eight, thirty-five, and at all periods up to sixty-one. The average, however, is forty-six in healthy women, and more cease to menstruate at forty-five than any other period in life. It depends greatly on accidental conditions of life. Blows on the head or back, frights, and other nervous states may prevent its appearance, and arrest it at any time, either when the discharge is on or off, and, if the shock is grave, forever. Its continuance depends greatly on the state of the health, the richness and purity of the blood, the freedom from worry, struggle, shocks, jars, and uterine and nervous disease; but taking all these into account, the average among our ladies is forty-six. Races, being essentially distinct, have each their peculiarities in menstruation. It is said that Hindoo women run from twelve to sixty, when

free from disease; and the Laplanders and other races have different peculiarities and eccentricities.

Ovulation and menstruation stand together, very nearly as cause and effect. Periodicity is an element in a woman's nature. Vaginal blood, even if it occurs with periodicity, when late in life, may not be menstrual, but may come from congestion, ulceration at the neck, polypi, and other morbid states. Still there are, as we know, rare cases of cessation at sixty-two or later, in strong constitutions, so it is well to be guarded. Cases at sixty and seventy menstruating are mostly due to some disease. Out of one-half million women who became mothers from under twenty to above fifty, seven thousand bore children from forty-five to fifty years of age, and one hundred and sixty-seven were mothers after they passed their fiftieth year. Cases of menstruation admit of great variation. Isolated cases are met with at six; more numerous at eight to eleven. Still there are a greater number late, from eighteen to twenty-two; while the general average does not vary from fourteen to forty-six.

Ovarian activity, then, is commensurate with constitutional vigor. An unusual prolongation of ovarian life and longevity indicates a healthy condition of the functions of vegetative life, and when prolonged, it implies great vigor, strength, and endurance, and means a good old age.

During the wear and tear, struggles, hopes, cares, sorrows, vicissitudes of life, the ovaries are often simply paralyzed, and their action suspended; when the difficulty is removed their function will be resumed. Visceral disease has the same effect; when the disease is cured, and better health brought about, their activity is restored. There may be a stoppage for a long time, and then a recurrence.

A woman past the age of fifty-three may be regarded beyond the age of child-bearing, except in very rare and exceptional cases. Pregnancy late in life is often mistaken for other diseases; and late labor is dangerous to the mother; indeed, it may be regarded as an extraordinary risk.

Cessation is often delayed by morbid blood and affections of the womb and nerves, ulceration of the os. We will again repeat that there may be uterine bleeding without menstruation. It should not be called menstrual unless it occurs between fourteen and forty-six; comes periodically, or with periodical paroxysms, and the blood has the characteristics subsequently described. On the approach of a fever, or pneumonia, or intense worry, or excitement, the womb of an elderly lady may bleed.

Early cessation is very common, and consists in a premature paralysis of the ovaries; and this extinguishment of the reproductive force may be caused by hard work, worry, miscarriage, or induced abortions, falls on back, cold, fright, wet, purging, cholera, fever, long trouble, drugs, occupations—all paralyzing influences. It is called early any time before forty-six, whether it be at twenty-one, twenty-eight, thirty-five, or forty-two. This condition runs in families; mothers and daughters resemble each other in this special department only. Women of the same family usually begin to menstruate at the same date; have the same kind of trouble, same eccentricities, same complications; cease at the same time, with the same peculiarities; and even die under the same conditions. In this alone they resemble the mother; in their mental characteristics and conformation, they are specially the same as the father.

Prostitution has a fearfully deteriorating influence on both brain and ovaries, and causes a loss of reproductive power. The vagina of a woman whose sexual act is loose and varied is cold; it has lost its vital vigor and contractility; it has no vivifying influence on the male. Its mucous membrane is purple or livid; it has none of the cherry redness of the virgin, and it is even in a more dilapidated condition than that of the woman after the change. As a consequence, if they live over the three years allotted to their abnormal existence, they change, irrespective of age. Even the conditions of life have a modifying influence on menstruation and change; the former comes on late in the poor and ceases early, whereas in the rich, it is early and holds on longer.

Menstruation usually takes place about the period of full moon in about two-thirds of all cases; the other one-third in the middle of the month. In spite of this disparity, there can be no doubt but that ovulation is regular, inevitable, uninterrupted; but the menstrual function shifts, owing to some special attribute of the nervous system, and this fact shows that it is governed by nervous influence, and explains how strong emotion may repel or alter the time of its appearance.

Menstruation is the effect of ovarian action, the shedding of an ovule; but the menstrual flow, or a discharge of blood can occur without ovulation, just as ovulation may occur without menstruation. Nervous emotion, overexertion, reading sexually exciting literature, passion, hearing disagreeable news, fatigue, quarrel, and jars will bring on menstruation in some

ladies without an ovule being shed. That sudden passion should cause the uterine surface to perspire blood is a well-known effect.

The average duration of the menstrual function is thirty-two years, which is the possible duration of female fecundity, and that of each successive generation. The mode of stoppage in the largest percentage of women is by a gradual diminution of the flow; by a sudden stoppage of the usual flow, or by a flooding or successive floodings, or by alternate copious or scanty flow, or at irregular intervals longer or shorter than twenty-one days. The greatest number exhibit a diminution, a gradual decrease in quantity, and also in the time of its duration; the other class, where it is erratic and the duration irregular; the next class, where there is flooding, the flow growing less and less, and at long intervals apart, till it becomes a mere show. The discharge, at first like blood, becomes blacker and blacker, clotty, then like cinder-dust or dirty-green water; in other cases like a lochial discharge in smell. The menses, in health, are not to be regarded as pure blood, there are certain chemical elements in them induced by the brain, ovarian act, the presence of the ovule, that renders this blood totally different from the blood circulating through the lady's body; so much so if it is absorbed, owing to sudden suppression, it will not mix, but is thrown off at some weak point in the skin, lungs, nose, bowels; it is sweet, not saltish like pure blood, but prior to and during the change it is still further altered in quality, whether it be scanty or profuse, at first paler in color, or later, brown or simply green water. As a rule ovarian influence begins to fail before menstruation becomes irregular, because when the sexual organs are healthy their loss of power is gradual, the ovarian forces become feebler and feebler, until they can no longer determine any influence over the uterus and the discharge subsides.

Many women, under false teaching and with modern thought, entertain the idea of having their ovaries removed so as to escape the menopause. Such an operation is never justifiable, unless there be diseases of the oviducts sufficient to destroy its integrity, such as solid or malignant tumors, blood-cysts, ectopic gestation, etc. In such cases there should be no procrastination, but every therapeutic measure must first be tried to exhaustion. We are strongly opposed to their removal in all cases, because it cuts off the internal secretion, alters a woman's whole nature, and is productive of insanity. An ovary and

Fallopian tube should never be removed unless the most tangible evidence exists of irreparable organic disease.

The extreme frequency of gonorrhea and post-partum endometritis wrecks many women, but never justifies their removal.

All women at the change should be placed upon a course of tonics and alteratives, in which thyroid extract and c. p. solution should be a chief agent; and if any other malady exhibits itself, treat on general principles.

Flushes of heat alternated with coldness, burning in the palms of hands and soles of the feet, stone bruises, abnormal sensations in the skin, headaches, fetor of breath, insomnia, gastric disturbance, gastralgia, hematemesis, diarrhea, hemorrhoidal stools and many other conditions of neurasthenia, all of which she may suffer, or pay tribute, owing to the insufficiency or want of ovarian secretion, which point to general nervous depression and absorption of useless products.

In fifty years' practice my chief reliance for ameliorating those symptoms of nervous depression, of molding the entire system into new ruts or channels, has been cinchona, sometimes as an infusion, in other cases as a comp. tincture cinchona, as a wine, and, if need be, in the form of Warburg's tincture, together with daily bathing, keeping the secretions active, and with good diet. For the unbalanced mental state, whatever form it assumes, the same remedies, but add to them thyroid extract and c. p. solution of spermin.

Independent of either cancer or polypus, hemorrhages at the change are not infrequent. Best treated by rest; every means possible to improve the general health; bathing, diet and a free exhibition of the wine of aletris farinosa. There is no remedy so valuable as this, in promoting the vital integrity of the uterus, and even in such cases in which the germs of cancer and polypus exist.

These hemorrhages are often associated with heart failure; if so creatinin, the alkaloid of the heart-muscle, must never be omitted. The secondary action of digitalis and strophanthus proves well as a cardiac bracer.

Cyanosis often occurs; spartein and digitalis often relieve it.

Rheumatism and gout are often leading features of the change. The acute form is rare, and when it occurs glycerite of wintergreen is usually sufficient. The chronic form, what is termed nodular rheumatism and gout, is most common; usually it is relieved by either colchicum or the uric acid solvent, or by general tonics and alteratives.

Nymphomania and pruritus are more rarely seen, and when present should be treated with large doses of the green root tincture gelsemium, and copious vaginal injections of a solution of boroglycerid, followed by pastils of life-root.

Diabetes, the true glucose diathesis, at the cessation of the menses, is apparently on the increase. Strong-minded women are its victims. Usually all the leading symptoms are well defined: The abnormal appetite for food and drink; the indescribable languor; constipation; urine of a very high specific gravity, averaging from 1035 to 1060; chloroform breath, and amaurosis. Usually most amenable to treatment.

In all cases sumbul, 5 to 10 grains at meals, completely arrests the evolution of the glucose fungus,—a most important point, as all symptoms become much ameliorated; even the specific gravity of the urine often becomes normal—1015. Various remedies will aid in carrying her over the crisis, such as comp. matricaria, kephalin, passiflora, thyroid extract and c. p. solution of spermin. It is rare for cataract to form in women.

Pneumonia occurring at the change has been rather of grave significance. Still, it is well not to deviate from the line of successful treatment. Passiflora in sufficient doses to control all irritability; sulphide of calcium as an antiseptic and blood-liquefying agent, and concentrated tincture of kirchicin as a vitalizing tonic, with local stimulation over the damaged lung, sufficient to excite leukocytosis.

According to my experience inflammation of the lungs at the change is most frequently double; hence the most gigantic efforts should be pushed to aid nature in her efforts. Veratrum in small doses should in all cases be combined with the passiflora. All other maladies appearing at the change should be treated on general principles.

MENSTRUATION, ITS DISEASES.—In the Caucasian female menstruation takes place between fifteen and forty-five years of age; in some cases a little sooner, in others later. The sanguineous exudation, in health, takes place every twenty-eight days, and in quantity varies from one to four ounces, and is unaccompanied by pain. Two-thirds of all ladies menstruate about the end of the month, the other one-third about the fourteenth. In a condition of health, this periodic evolution should be regular; no arrest, nor excess, nor difficulty, only during pregnancy and nursing, when it should cease. If it does not suspend during pregnancy, and for fifteen months after the

birth of the child, the proper duration of lactation, measures must be taken to cause its disappearance, as it is highly detrimental to the health of the child. These measures should consist of an avoidance of coition, or reading of our modern literature, in the daily use of hip-baths, and remedies like aletris wine and partridge berry to strengthen the system. There are three different morbid conditions of menstruation,—amenorrhea, dysmenorrhea, and menorrhagia.

MENORRHAGIA.—Too great a flow or loss of blood at the menstrual period, or otherwise, is traceable in numerous instances to the presence of microbes in the blood or their ptomains; even such constitutional causes as scurvy, hemorrhagic diathesis, cardiac and hepatic disease have their primary origin in disease germs; and even the local causes, such as pelvic congestion, endometritis, metritis, adenoma, polypus, fibroid tumors, carcinoma or sarcoma, retained products of conception, hematocele, ovarian disease as cystic degeneration.

Constitutional causes vary with age.

Prior to and subsequent to puberty—often due to a want of nerve force—the vasomotor nervous system in general is feeble, tissues lax, a characteristic of rapid growth; and in woman approaching the forties, malignant disease; after the change, atrophic degeneration.

Among medicinal agents, none are so productory of hemorrhage as the coal-tar derivatives, bearing the names of antipyrin, antifebrin, methylene blue, etc., because they tend to break down the red blood-cells, depress the motor and sensory nerves, paralyze the heart, and give rise to inertia of the uterus. It is a matter of regret that we have such remedies, as they give rise to so many morbid conditions.

Our tropical climate, fast living, sedentary habits, sexual excesses, are productive of it.

In all conditions of menorrhagia there are two remedies which stand forward as uterine tonics and reconstructive agents, and these are the ozonized comp. syrup of partridge berry and wine of aletris farinosa.

With reference to the partridge berry, it is undoubtedly the most important therapeutic agent that has ever been presented to the medical profession for the treatment of diseases of the female reproductive organs. It possesses most extraordinary curative properties in all devitalized states of the uterus or its appendages, aids a renewal of life in all its weakened parts. It is a great uterine vitalizer and tonic, possesses the peculiar prop-

erty of evolving organic elements in the complex uterine system, and proves eminently beneficial in all cases where the functions of the uterus or the ovaries are either dormant or deranged.

In atrophy, its exhibition stimulates growth; in all catamenial disorders it is the rectifier; in all chaotic states incidental to pregnancy it is the great equalizer, overcoming nausea, vomiting, albuminuria, thereby wiping out all tendency to convulsions from toxalbumin, preventing miscarriage, imparting such strength to the uterus that parturition is almost painless.

Unquestionably the best remedy we have when puberty is retarded or sterility is present.

It is indicated in all states of uterine debility or weakness, such as chlorosis, dysmenorrhea, menorrhagia; all forms of displacements; metritis, endometritis, ovaritis; in induration and ulceration of the cervix; leukorrheal melancholia; uremic eclampsia; cancer.

Dose: Best administered in doses of from one to two teaspoonfuls three or four times a day for a week, then suspend for five days; in the interval the patient should be placed upon the ozonized aletris farinosa, then the use of the ozonized partridge berry should be recommenced. As it is a remedy whose efficacy is best noted after a six months' course, this break is essential.

As an appetizing tonic no remedy can excel the ozonized comp. matricaria, and if the nervous system requires the aid of a bracing constructive, the c. p. solution of spermin.

Every case of uterine hemorrhage deserves immediate attention, especially if there be pelvic pain and breaking down of the general health.

MENTHOL (*Mentha Arvensis*).—Japanese peppermint, a camphoraceous body, is a bactericide of considerable power in influenza and catarrhal affections.

Administered orally as follows: Menthol, 1 dram; fluid extract licorice, water, brandy, of each 3 ounces; carbolic acid, 20 grains; oil of origanum, 20 drops. Mix. Four drops every 3 hours.

For inhaling either by atomizer, spray, or other methods.

Incorporation of menthol with other methods in nasal catarrh.

Menthol cones, the crystals put up in cones, in closely-fitting boxes or bottles, on account of the exceedingly volatile nature

of the drug. In this form success has attended its use in headache, facial neuralgia, sciatica, by rubbing it over the affected part.

MESENTERY.—Tabes mesenterica, a disease of infantile life. The mesentery belongs to that class of blood-raising glands, as the lymphatics, pink marrow; any damage to it, infiltration of its proper structure with either the products of inflammation or the bacillus of tubercle, renders it unfit to perform its functions.

The summer diarrhea of infants, with its green stools, or prolonged cholera infantum, creates a tubercular diathesis, and the local irritation of the comma bacillus in the bowels gives rise to eusion of tubercle throughout the entire gland; the abdomen enlarges, the blood becomes anemic, and the amount of the tubercular bacilli in the mesentery is so great that it quickly undergoes its usual metamorphosis,—milky, cheesy, calcareous.

If possible get rid of the cause, which is usually summer diarrhea or cholera infantum, by a selection from such remedies as periodate aurum, lactic acid, resorcin, stone crop, guaiacol aided with proper diet, fresh, cool air, bathing.

If the mesentery has become infiltrated largely or immensely with the tubercular bacillus, which is known by the white skin, dry hair, triangular features, profound emaciation (a living skeleton), with a greatly enlarged abdomen—when the tubercle has undergone degenerative changes, cheesy, calcareous, the abdomen can be felt lumpy, knobby, hard. The tubercle in both the blood and mesentery must be destroyed, the integrity of vital force not only maintained but elevated, for which a physician will select two of the following remedies, administer alternately and change weekly, viz.: Glycerite of ozone, carbonate of guaiacol, hypophosphite of potassium, glycero-iodine in sweet milk, glycerite or kephalin. Over abdomen, a roller flannel; underneath it either guaiacol ointment or concentrated ozone, with menthol or without, jelly of violets and ichthyol. Bathing morning and night, followed by inunction of warm olive oil and guaiacol. Bathing in a solution of pine-tree needles, iodine and sea salt.

METRITIS (*Acute*).—The causes which give rise to acute inflammation of the uterus are very varied, such as injuries from instruments introduced, cold, rheumatism, suppression of the menses, retention of placental *debris*.

The symptoms: Inflammation of the uterus, acute; pain in the back, darting to the pubes and down the thighs; frequent chills; fever; pulse quick, wiry, feeble, or slow; breasts tender, painful; pain in sacrum in act of defecation, nausea, vomiting; gives rise to hysteria, induration, softening, abscess, gangrene.

A depression of the great sympathetic, exposure to cold or wet, hard labor, violence of any kind, a disregard of sanitary conditions, may give rise to a partial death of the uterine body.

There is no condition of life, between 15 and 45, that can give immunity from acute inflammation of the uterus in married or single life. The uterus is abundantly supplied with blood-vessels and nerves, in constant excitement and activity, its anatomical structure perfect, and there is nothing to prevent metritis and the evolution of bacteria, provided uterine collapse has occurred. Toxins of the most deadly character are evolved.

The question naturally arises, Has our newer remedies, modern methods lessened its severity or diminished the mortality of acute metritis? Most assuredly not. Our only safeguard in all cases is narcotism with opium; thorough uterine stimulation with the uterine cones, one every hour, and the local application of ozonized turpentine over the entire abdomen, until a blush is apparent, when it should be removed, covered with sweet oil, and after a little the turpentine should be reapplied again and again.

Resolution, under these three remedies, will take place, provided they are energetically and judiciously pushed to obtain perfect uterine stimulation.

As a tonic vitalizer of the uterine body, follow with the wine of aletris farinosa, a never-failing remedy to brace up the fibres of a relaxed uterus.

A prolonged course of the wine of aletris farinosa is always followed by the most gratifying results.

Acute symptoms overcome, treat same as chronic inflammation.

Chronic metritis may be a sequel of an acute attack, but more generally it comes on of itself; it is very common, undermines the health of a large percentage of American women, but treated with rest, vaginal injections and pastils, recovery is frequent; the sovereign remedy in all cases is the wine of aletris farinosa.

Acute and chronic inflammation of the neck of the uterus can exist for a long period of time, isolated without invading the body of the uterus.

Modern bacteriological researches have demonstrated that the external os uteri formed a boundary between the lower part of the genital tract containing micro-organisms and an upper containing none. The alkaline cervical mucus is destructive to micro-organisms introduced from without, and so forms a protection to the uterus, tubes and ovaries. There are two microbes which resist the destructive action of the cervical secretions, namely, the gonococcus and tubercular bacillus. For these the defensive means are unavailing. The bacillus of syphilis, tuberculosis, diphtheria and cancer give rise to erosions of the cervix and mucous membrane, but have not the power of migration. Internally gelsemium, locally pastils of life-root, alternated with boroglycerid, meet all the indications with certainty.

These cases, if not promptly cured, invariably merge into cancer of the uterus, for which extirpation is never efficacious, as the primary neoplasm is in the blood. The mysterious evolution of the cancer microbe, a sequel of metritis, is due to some cellular anomaly in the blood.

It is well in all cases of either acute or chronic metritis, after recovery, to institute a treatment calculated to prevent an evolution of the cancer germ in the blood, such as comp. saxifraga alternated with the aletris cordial.

MICROBES.—To the eye of the modern scientist there is a microscopical world in the atmosphere, water, earth; as he finds all swarming with germs, he sees them in the motes of the sunbeam; in the morning mist, in the dust which settles on the window and floor, and the question naturally suggests itself, what are they? They are the living elements of animals and plants, in a state of transition, which hold an intermediate place in nature. Their function, their place in the fabric of the world, is to pull down, destroy, reduce to elementary forms, by a process of disintegration, of eating up each respective tissue in detail, the more highly organized products of plants and animals, before their conversion into cadaveric alkaloids.

To form some conception of this microscopical world, it is necessary to compare them with some known object. Place them in a row, it would take 1,500 of them to reach across the head of a pin.

These bodies vary in shape and size, some in the form of spheres; others, straight spinal rods, covered by a membrane or capsule, pale, translucent bodies, which in order to study correctly must be stained.

Warmth, moisture, oxygen and some amount of organic matter are necessary for their growth, which if present, their growth is prodigious. A single one will divide and subdivide until it has produced sixteen million five hundred thousand in twenty-four hours, and these will continue to multiply in like manner as long as they are favorably environed. There are numerous varieties; all have the faculty of self-movement, of nourishing themselves, and reproducing their kind. They make radical changes in organic matter, rendering it available for use and for the continuance of all life.

Microbes, in the cycle of life, have a rôle to play which cannot be dispensed with.

Plants cannot feed upon dead animals nor upon a fallen tree until they have undergone a rotting process. This process is the special business of the microbes. They lay hold of all dead matter by the million, pull apart, disintegrate, reduce to primary elements the raw material on which plants may begin again. Were it not for the disintegrative work of microbes, plant and animal life would reach a deadlock; if all microbes would suspend operations, the earth would be covered with dead plants and animals, in whose tissues would be locked up, out of reach of new life, the circulating medium of all living things; as it is, they are ever busy aiding fermentation, putrefaction, decay—they are the ever-living scavengers, in transforming dead, decaying matter into nutrition for plants, cereals, etc.

In the study of microbes they are divided into two general divisions, one class which are peculiar to and subsist upon dead organic matter, and the other class which are pathogenic of some special disease—or as some authors put it, technically classed as schizomycetæ, or splitting fungi, and then divided into two classes—the saprophytic and parasitic—the first being those which carry on decay and deal with the dead rather than the living, while the second find their abode in every living thing.

To the farmer, microbes are his ever-ready slaves; so in the cycle of crops, his soil needs replenishing with phosphates, sulphates and nitrates; the two first are abundant in earth deposits; but nitrates are the products of life; therefore the supply is limited, although the nitrogen of our atmosphere can be gathered by certain plants if aided by a microbe that forms tubercles on their roots; red clover, peas, beans are of this class. This microbe assists the plant to get its nitrogen supply from the atmosphere. Rejuvenation of soil takes place from such crops.

—it saves the life world from bankruptcy, as all the nitrates are lost in permitting sewage to run off into our lakes, rivers, seas.

In the curing of milk; heating, cooling, thawing and refreezing of cream, microbes are evolved, which in their growth excrete a most deadly poison (tyrotoxicon); in butter-making, microbes do it.

Active microbe workers produce beer, wine, vinegar, lactic, acetic and citric acids—produce mold upon bread, the rot in vegetables; some microbes cannot live alongside of others—the toxins excreted by one often kill the other, whereas others again cannot live separately, as the action of one liberates materials upon which the other feeds and grows.

In all conditions of partial death, in the human body, microbes are ever ready to proceed to disintegrate the tissue, and reduce them to their primary elements; whether the cause are as precursors or simply the attending evolution, it is here unnecessary to discuss.

Depreciate the nervous system of man, either by overwork, meagre, adulterated food, want of sunlight, deleterious trades, insanitary states, disease, or impair the vitality of any animal, —if so the microbe of tuberculosis will put in an appearance somewhere in the body that happens to be weakened. A very large percentage of the human race, and domestic animals, have this germ either latent or active in their blood and tissues.

In an active state, tubercular disease in some form. To eradicate this microbe there are two essential points to be attained: (1) it must be killed, its destructive metamorphosis arrested; toxins neutralized; (2) vitality must be raised.

To effect the first, saturate the affected individual with guaiacol, administer the mixture orally, by inhalation, by suppository, inunction by the skin, plaster; administer glycerites of ozone, preparations of the pine and other germicides.

To effect the second—that is, raise the standard of vital force by abundant nutrition, best of food, fresh air, sunlight, woolen clothing—administer matricaria, kephalin, c. p. solution of spermin, avena sativa, protonuclein, baths, massage.

Statistics corroborate the assertion of the National Bacteriological Society that 80 per cent of the heterogeneous population of North America suffer from the presence of this microbe in the blood stream.

Next in order of frequency, in every-day life, are the venereal microbes, gonococcus and syphilis.

The gonococcus is a direct evolution of promiscuous sexual

intercourse, loose and varied, a few women among many men —masturbation, the damage, the partial death productive of the act, also gives it an origin. It is excessively common, extremely infectious, and to some extent contagious—its toxin is inimical to all sexual vitality—destructive to the testes and ovaries, blights the white fibrous tissues, and thus resembles the toxins of rheumatism. The best remedies to kill and wipe out this microbe are the mistura llaretta internally and the washing out of the urethra or vagina, after every act of micturition, with distillation of eucalyptus.

The microbe syphilitica is altogether a very different germ from the preceding, and modern science is not yet prepared to assert how or in what way its evolution is brought about; it is a microbe whose toxin has a terribly destructive action on every tissue of the body, and gives origin to every grade, type, species of disease. The brain (the nerves) has a greater store of vitality than all the bodily systems put together; it is the last to mature, the last to grow old, a texture even after death that is long shrinking; even this highly vitalized structure the toxin of syphilis will degenerate most rapidly. Highly contagious and infectious.

The up-to-date remedies for annihilating this microbe are compound saxifraga, periodate aurum and comp. tincture matricaria.

Incidental to the condition of modern neurasthenia, great nervous depression, the uric acid diathesis appears on the horizon—fermentation of the amylaceous and saccharine elements of food in maldigestion, the microbe amylobacta, pathogenic of rheumatism, appears—easily found, readily cultivated, anaerobic, found in the softening of cheese; in the fermentation of sauerkraut and in the souring of gherkins, and other forms of microbic change. In the process of bacterial growth a toxin is evolved which produces much havoc on the blood, on all the weakened white fibrous tissues of the body and the heart with its appendages.

The acute and subacute forms are most successfully treated by the administration of the ozonized glycerite of wintergreen, the uric acid solvent, and matricaria, together with bathing, massage and nutrition. The chronic form yields more readily to comp. saxifraga, uric acid solvent and tonics. An ointment or liniment of the oil of wintergreen in which chloroform is incorporated is the best local application.

A hale, hearty individual receives a fracture of the ribs, with

laceration of the lung substance, promptly giving us the pneumococcus in the rusty or prune sputum, and if the proper germicides are not administered pneumonia may set in.

Let cold, wet, exposure, inhalation of irritants be brought to bear on the devitalized body, congestion, red and gray hepatization of the larger aerating surface of the lungs may take place and form a most aggravated case of acute pneumonia; toxins in prodigious abundance may be excreted, so great that they themselves will kill the pneumococci, produce a crisis, with recovery.

Few patients can withstand the action of the coal-tar derivatives, antipyrin and phenacetin, in pneumonia, as they paralyze the heart.

Let the remedies be stimulation and nutrition, prompt local stimulation over the damaged lung, with veratrum viride, passiflora incarnata, sulphide of calcium and quinine internally. The indication for the latter remedy in all cases is, it dissipates pulmonary congestion, which is effected through an increase in the diastolic movement of both heart and arterioles. It also re-enforces the medullary nerve centres, enables them better to resist vagus irritation, limits the area of filtration, and arrests the tendency to death. Like all microbic maladies, contagious and infectious.

There is no difference either in the rot or blight in the vegetable and animal kingdom, their etiology is the same—an impoverished soil. Of late years diphtheria has been carefully studied the conclusion reached is that it is a blood disease, a true rot; the exudation upon the throat or elsewhere is the result, and common among all domestic animals—propagated by contagion and infection. If it be due to an exhausted system —all are agreed on this. Two classes of remedies are required to check its progress—germicides and fortifiers. Germicides internally and locally, to alter the character of the blood and build up vital force—the sulphates are natural antidotes to such a soil; so we find in practice the ozonized glycerite of sulphur a safe, sure, exceedingly valuable remedy, administered in small but frequent doses, until the system is saturated with the remedy, which will be known by its acting upon the bowels; then diminish dose, give less frequently. Sulphide of lime and the chlorides are good remedies.

No antitoxin can cure diphtheria. Glandered horse serum contains one-eighth of a 1 per cent solution of carbolic acid, will not do it, but it will produce degenerative changes in the

heart, kidneys, brain, and probably kill the child. All hypodermic treatment is injurious. If any physician who believes in the tainted horse-serum craze would use hypodermically the one-eighth of a 1 per cent solution of carbolic acid in its stead he would obtain the same results without degenerative changes, and without feeding grasping corporations. Stimulants and nutrition to get the system strengthened by any possible way.

Some bacteriologists assert that in neurasthenia a degradation of the living matter concerned in the nutrition of the nervous system takes place, which gives us the typhoid fever germ, as we find in all cases of nerve prostration the micrococci of this germ infiltrated in the follicular glands of the intestines; in the mesentery, liver, spleen, swarming, even multiplying in the human blood. Even in this stage of incubation, contagious and infectious, the full-fledged germ, the typhoid fever organism, has great tenacity of life, can live for a long time in the soil, as there it gets fresh supplies of organic matter at intervals. From grass soil and river pollution the organisms spread by wind, land and water into our bodies through food products and otherwise.

The essentials of sound treatment are to build up vital force by nursing, bathing and nutrition, and to kill the germ in the intestinal glands. For this latter many remedies are recommended. We would suggest to our readers to try the great intestinal germicide, siegesbeckie, in tablet form. The annihilation of the germ gives rise to diminished metabolism, in lessened destructive metamorphosis; the heart is relieved from its embarrassment, its action becomes improved, the liability to cardiac failure is mitigated, and the febrile process abates, and a natural performance of all organs takes place; even the excretion of urea, phosphates and chlorides in the urine is diminished, and a ready, rapid assimilation of the blood elements from the food taken is the result.

A partial death of the mucous membrane of the lips, cheek, gums, tongue, nipples, from any cause, either toxins in the blood, or cracks, abrasions, fissures, known as sore mouth, promptly gives us an evolution of the microbes oidium albicans and the leptothrix buccalis, germs which have a remarkable tendency to break down tissue, and are communicated by infection, and possibly contagion—germs which are easily annihilated, provided ordinary antiseptic precautions are observed with a tepid solution of ozonized boroglycerid—or simply touching the fissures or sores with oil of thuja.

When the Schneiderian membrane of the nose suffers a partial death, the living elements concerned in its nutrition are changed, altered, degraded into a disease germ ameba, we have what is known as nasal catarrh, a contagious and infectious malady. Very common in all sections of the country and one which, by migration, causes a great havoc in the olfactory tract, sinuses of the head, Eustachian tubes, bronchi—and by its toxins impairs the integrity of the brain and blood.

Chronic nasal catarrh gives rise to congestion, hypertrophy and other pathological changes in nose and blood.

Douches or inhalation of ozone and chlorine will vitalize the lining membranes of the nose, will either kill or drive out every germ. This can be effected, but organic changes, brought about by this and other germs, require a course of careful medication with comp. saxifraga as an alterative and matricaria as a tonic.

If nasal catarrh be not cured by local microbicides and a highly constructive constitutional course, the ameba will eat up all the tissue for which it has an affinity, and the microbe of ozena, with its pungent, gangrenous odor, will appear.

Here push tonics, thyroid extract, protonuclein, matricaria, kephalin, most nutritious diet; cleanse the whole nasal cavity daily, with either a tepid solution of ozonized boroglycerid or ozone et chlorine or the formal lotion, thorough douching; later on a nasal spray of five drops of tincture of iodine to the ounce of water, twice daily, a mild but efficient antiseptic—it does away with all clap-traps, such as powders and iodoform, boracic acid, gelatin, nasal bougies, and the like.

Let the mucous membrane of the stomach suffer a partial death from beer drinking, tobacco chewing, inordinate eating or drugging, a condition termed gastric catarrh or mucous dyspepsia, with all the horrors of fermentation, the yeast plant and the sarcinæ ventriculi will suffer an evolution.

To effect a cure these microbes must be annihilated, toxins neutralized, the integrity of the mucous coat of the stomach restored, revitalized. An infusion of kaki will do this, or siegesbeckie tablets, or ichthyol in capsules and the mucous coat of the stomach strengthened by the administration of matricaria.

The increasing prevalence of cancer, appearing in all ages, in all conditions of life, has led some eminent bacteriologists to the conclusion that this microbe will eventually cause the extermination of the human race. It is the germ of all germs,

extremely contagious and infectious, its dissemination is without a parallel, its ravages prodigious; no organ, gland, structure, tissue of the human body exempt from its evolution, when malnutrition and degenerative changes set in.

The cream of the medical profession, the brightest, most intellectual physicians in America and Great Britain, are now using their best energies in placing a "stay" on its further progress by the use of germicides and reconstructive agents; all have one idea, the betterment of our race, the blotting out of a dangerous microbe. Some physicians report great results from the administration of the ozonized thyroid extract; others from conium et phytolacca; still another class from comp. saxifraga and protonuclein; whereas some shrewd observers administer Chian turpentine mistura and glycerite of sulphur to cure the malady; but where does the prophylaxis come in?

Three of the leading pathogenic microbes "visible" among the people of the United States are the bacillus of tubercle, syphilis, and cancer—three contagious and infectious maladies; the germ of each may invade any tissue of the body provided it be weakened. The toxin of each of these microbes effects grave changes in the blood, diminishing the red, increasing the white corpuscles, and otherwise toxically affecting them.

Another microbe, "invisible," which is affecting the entire nation, is the bacillus of neurasthenia, the outcome of overexertion, strain, worry, sexual excesses.

According to the light of modern science, we are compelled in the treatment of the grave changes produced by those germs to abandon the accumulated teachings and experience of ages, and adopt a newer materia medica.

1. We now find that the most efficacious drugs, to destroy and sterilize the tubercular bacillus, are the glycerite of ozone: guaiacol, orally, cutaneously, inhalation and by the rectum: preparations of the pine needles, either as ozonized tar syrup or pine-tree tablets, or by inhalation; thyroid extract, protonuclein and c. p. solution of spermin.

2. For the annihilation of the bacillus of syphilis: ozonized saxifraga comp. and chloride of gold and platinum, periodate aurum are now more successfully used than the mercurial preparations.

3. To wipe out the cancer microbe, Chian turpentine mistura; comp. saxifraga and phytolacca, glycerite of sulphur, protonuclein, thyroid, c. p. solution of spermin.

Matricaria is conceded to be the best tonic in the three varieties, together with abundance of good food and fresh air.

All microbic diseases are both contagious and infectious, and should be so classified.

MICTURITION.—The act of urinating or passing water. Urine is an excrementitial fluid secreted from the cortical part of the kidney, filtered through the tubular portion, poured by drops from the apices of the tubular papillæ into the pelves of the kidney and transmitted to the ureters, which convey it slowly, painlessly and continuously into the bladder, where it is deposited until its accumulation excites a desire to void it. The excretion of the fluid takes place through the urethra, which is caused by the action of the abdominal muscles and the diaphragm and the contraction of the fibrous coat of the bladder.

Of the varieties of pain to which our poor humanity is heir, none is more distressing or more insistent than pain on passing water. This must necessarily be the case, because of the extreme importance to the organism of the proper exercise of the urinary function. Through this exit pass away the nitrogenous elements of tissue metabolism, of the excess of albuminous matter taken as food, and of the products of microbic activity; three classes of bodies which, if retained in the system, gravely clog the wheels of life, and ultimately establish degenerative changes in the tissues. It is not then to be wondered at that the urinary passages should have evolved acute sensibilities, so that any serious abnormal state is vividly impressed on the consciousness, and the individual thereby driven to seek a remedy for a condition threatening the integrity of a vital function.

The causes of pain on passing water are to be sought from the side of the passages or from the side of the urine which flows along them. The passages may be inflamed and hyperesthetic from the effect of congenital malformation, mechanical injury, or microbic invasion; the urine may be irritating, from concentration of uric acid, from precipitation of its crystals, from the evolution of the micrococcus ureæ, in fermentation, from the presence of microbes and their toxins. Pain may be due from many causes both in the urine and in the passages, strictures are common; inflammation of the passages, urethra, bladder, kidneys. Whatever be the cause, it must be either removed or rectified. It is true it is but a symptom, and usually

the first thing we rush to is to administer alkalies. Alkaline urine is less irritating, less provocative of tenesmus when in contact with an inflamed surface. There are two remedies of intrinsic value in painful micturition well adapted to the majority of cases, and they are the ozonized celery comp. alternated with the uric acid solvent.

The administration of the celery compound in all cases of urinary pain or distress is of great utility, it promotes secretion, vitalizes the kidneys, and is very soothing to all the nerves of the urinary tract, and especially is this remedy indicated if there be any tendency to Bright's disease.

Celery compound is curative in painful micturition. The ozonized uric acid solvent is one of our best antagonists to uric acid crystals; it completely dissolves and eliminates them.

The symptom of pain on passing water is, indeed, a very important one, and should never fail to meet with attention. It may be "nothing much," but it is more likely to be a danger signal of impending complications, which cannot remedy themselves, but only tend to get worse if neglected. Slight pain may call attention to the gravest conditions of kidney disease, or diabetes, hitherto unsuspected; while, with regard to other less dangerous states, it may be the first warning that anything is going wrong.

MIDWIFERY, OR OBSTETRICS.—Pregnancy.—Conception consists in the fertilization of the ovum or egg of the female by the spermatozoa of the male in the ovaria; then fecundation takes place. There must be a union of the two materials furnished by both sexes; that is, the spermatozoa must unite with the egg in the ovary and fertilize it; and the embryo results from the union. The spermatozoa is ejaculated into the vagina; the uterus, by inhibitory action and vermicular movements, takes it into its cavity and passes it along the Fallopian tubes to the ovaries. It may occur without the patient being conscious of its occurrence, or against her will. The most favorable period for conception to take place is either before or after a menstruation. After the ovum is impregnated it increases in size, and becomes prominent on the ovarium; then absorption of its peritoneal coat takes place; and when free is seized by the fimbriated extremities of the Fallopian tube and carried into the cavity of the uterus. The ovum as a general rule is found in the uterus twenty days after impregnation, sooner or later.

After the exfoliation of the ovum from the ovary, an effusion of blood takes place into the cavity in which the egg was imbedded, and this is followed by a corpus luteum.

The human impregnated egg is very small, about the size of a dwarf pea. When impregnation takes place, the internal os uteri becomes closed by a soft gelatinous substance, and the internal lining membrane of the uterus throws out a flocculent or downy substance, which fills the cavity entirely. This is called the membrana decidua, and into this downy bed the ovum drops when it makes its exit from the Fallopian tube, and if not disturbed will form its attachment near the point of ingress and cause a growth of that part with which it comes in contact, and is called the decidua reflexa. So that the decidua is now divided into that portion lining and in contact with the uterus, called the decidua vera, and the other portion called the decidua reflexa.

The embryo then becomes covered with two membranes, the chorion and amnion. The amnion is an internal lining serous membrane, which furnishes a fluid for the protection of the embryo; allows space, facilitates motion and development of the fetus, and wards off shocks, jars, concussions.

The chorion or outside covering furnishes a means of communication with the uterus. The ovum, after its establishment within the uterus, consists of the decidua, decidua reflexa, chorion, amnion, liquor amnii, fetus and umbilical cord, with one extremity attached to the child, the other to the membranes at the point of attachment in the after-birth. The after-birth or placenta is a plexus of vessels by which the circulation is maintained between mother and child, and by which the latter is nourished. When of full size it is from six to eight inches in diameter, and its thickness varies from a line to one inch, or more, at its centre. It has two surfaces, one attached to the uterus, which is rough, spongy, traversed by ditches, and the fetal side, which is lined by the amnion, which is smooth.

For the first three months of intra-uterine existence this twig of humanity is called an embryo; the latter six a fetus. As soon as impregnation takes place, the walls of the uterus become greatly infiltrated with blood, which increases the size of the vessels from being very small and convoluted to that of large and straight, the muscular fibres grow with perfect regularity. This increase of growth and development for the first three months is very great, so much so that the specific gravity of the uterus is so much that its broad ligaments are unable to hold it

up, and it descends very low into the cavity of the pelvis, often nearly protruding. After the fourth or fifth month this difficulty is entirely obviated by the uterus floating above the pubes, and at six months it is still higher. After the fifth month there is a gradual distention of the body of the uterus, which encroaches upon the neck, distending it, merging it into the body, and causing it to become shorter and shorter, until from the eighth to the ninth month it is entirely obliterated, that is, merged into the body.

The duration of human pregnancy is about 275 days. This is subject to some variation, and the longest period is still undetermined. As labor occurs in the larger proportion of cases between 270 and 290 days from the last menstruation, it is usual to reckon either from the first or last day of this period, taking as the mean 280 days, or a little over nine calendar months.

Parturition.—A physician when called to a case of labor should take with him his pocket and obstetrical cases; some chloroform, ether, concentrated ozone, obstetric cones, ergot.

For all highly civilized women, with a curved sacrum, the left side in a doubled-up position near the foot of the bed, with a sheet or something to hold by, during the pains of labor, is the best. This must be from below, up. Women lowly civilized, with nearly a straight sacrum, do about as well on their back or in a kneeling position.

Examination.—Place the patient on the left side, ascertain the condition of the bladder and rectum; if loaded both must be thoroughly emptied.

During a pain insert the index finger of right hand, well oiled; note carefully the condition of the vagina, the state of the membranes, capacity of pelvis, and determine, if possible, the presentation and position. Allow the finger to remain during the interval, and when the next pain comes, if not too long, make out the presentation before the membranes rupture. Do not press on the membranes during a pain.

Presentations.—Labor and conception occur usually at a monthly period—the normal period of parturition corresponds to a menstrual, so that pregnancy occurs 280 days, more or less, as impregnation takes place before or after menstruation.

So true, so admirable, so energetic are the vital intelligences of the uterus, that it parts with its contents like ripe fruit from a tree.

When the uterus is ready to drop the fruits of conception, a

certain portion of the fetus (by specific gravity the head) presents or appears at the os uteri.

The head is the type of natural labor, and in this state it presents itself as follows:

Vertex Presentations.—The head, the occiput, presenting, may be placed in six different positions at the superior strait; hence the six kinds of natural presentations of the head, namely:

1. The anterior part of the cranium pointing to left sacroiliac synchondrosis, or left occipito-anterior. In this position the anterior fontanelle is found at the right sacroiliac symphysis, the sagittal suture running obliquely across the pelvis, from left to right, posteriorly.

2. The anterior part of the cranium pointing to right sacroiliac synchondrosis, or right occipito-anterior. In this position the forehead of the child and the anterior fontanelle will be toward the left sacroiliac symphysis, the sagittal suture running obliquely across the pelvis anteriorly, from the right to the left, posteriorly.

3. Anterior part of cranium pointing to the symphysis pubis, or occipito-tubal, in which the occiput faces the symphysis pubis of the mother, and the anterior fontanelle will be toward the sacrum.

4. The anterior part of cranium pointing to the left foramen ovale, or left occipito-posterior, in which the occiput looks toward the left sacroiliac symphysis of the mother, or posteriorly to the left of the pelvis, the sagittal suture running obliquely across the pelvis from left to right.

5. Anterior part of cranium pointing to right foramen ovale, or right occipito-posterior. In this position the forehead of the child, or its anterior fontanelle, will be toward the left acetabulum, the sagittal sature running obliquely across the pelvis anteriorly, from the left to the right.

6. Anterior part of cranium pointing to the promontory of sacrum, or occipito-sacral, in which the occiput faces the sacrum of the mother. The anterior fontanelle will be found toward the symphysis pubis. Hand positions are diagnosed by the hardness of the bones, position of sutures and fontanelles.

In order thoroughly to master these positions, let the student take an articulated pelvis and a fetal head, and he will easily gain a thorough knowledge of the various positions. Take the vertex or occiput for a guide, and place it, anteriorly or posteriorly, in the maternal pelvis, then begin with its anterior posi-

tions, as the vertex to the left anterior, to the right anterior, left posterior, right posterior, etc. In this way a more accurate knowledge of the presentation can be obtained in a shorter time than could be acquired for months otherwise. It is true that in the first, second, fourth and fifth positions, nature, if properly aided, will terminate the labor; and it is also true that a physician well skilled in the diagnosis of these positions, can easily recognize the third and sixth as being invariably attended with difficulty and delay, and can also rectify these by a slight rotation of the head, into either of the first four positions. A correct appreciation of these positions is indispensable to every one practicing midwifery.

Unnatural Presentations.—The most common is the face, which usually presents in two positions. The first is when the forehead is to the left ilium; the second the reverse of this.

The presentation of the breach or buttocks, easily diagnosed by the slow labor, softness, cleft between the buttocks, anus, meconium, os coccyx, scrotum or vulva.

Presentation of the superior extremities occurs about once in 230 cases, shoulder, arm, elbow and hand. The back of the child, either looks toward the abdomen of mother or backward toward her spine; here labor is impracticable, version or turning should be resorted to; no delay.

Rigidity of the Neck of the Uterus.—Internally.

Alternate belladonna with gelsemium. These two remedies act like magic in producing dilatation and producing uterine contractions. Locally apply belladonna cerate to os uteri and resort to hot hip baths, warm vaginal injections with lobelia. The obstetric cones are the best of all remedies to effectually overcome a rigid os uteri, two inserted well up in the rectum, the same in the vagina.

Tough Membranes.—If they are tough and served their purpose as a dilating body and retard labor, notch the finger nail like a saw and rub it to and fro over membranes and they will give way.

Be sure that the bladder and rectum are empty.

If the perineum is rigid, unyielding, apply hot fomentations, as hot as can be borne. These failing, steam the pelvis with hot water in which either tobacco or lobelia is steeped. If the vital force is feeble, stimulate, give sulphate quinine, capsicum in warm milk, hot milk-punch.

Inertia of uterus during labor. Try injections into rectum, friction to abdomen. Capsicum, prunia, with quinia, is the best

remedy. Beef tea, stimulating hot drinks, pulsatilla, passiflora. Ergot should not be given in labor to facilitate or hasten unless the parts are fully dilated, position normal and head presenting at outlet.

The practice of administering ergot early in labor is most detrimental, giving us, as a result, still-born children and often sudden death of the mother from thrombosis. Freshly pulverized ergot in infusion is the best.

Painless Parturition.—Ladies who take abundant exercise, eat wholesome food, live hygienically, keep the bowels regular, have remarkably easy labors. To render it almost painless take four ounces concentrated ozone, one ounce of chloroform. Mix. Repeatedly bathe the entire abdomen and back during the progress of labor, at the same time insert two obstetric cones well up the rectum; the same number up the vagina; this can be repeated at intervals of half an hour apart.

Bandage after Delivery.—After delivery of the child and after-birth the patient should be bandaged with a roller, reaching from the middle of the thighs to the ensiform cartilage, pin firmly below and somewhat easier or looser as it ascends; pin closely at every three-quarters of an inch. It has advantages. It relieves after-pains and prevents hemorrhage, maintains the rotundity and natural shape of the abdominal walls, obviates the pendulous abdomen, so common. It ought to be worn at least two months.

Antiseptic Precautions.—The washing out of the vagina with warm lotions of boroglycerid is of great efficacy.

After-pains.—After the first confinement there is always more or less inertia of the uterus, with some irritability; hence after-pains, slow contraction of the uterine walls, retained placental *débris*, coagula.

The following mixture is most efficacious: Aqua cinnamon four ounces; sulphate of morphia four grains; bicarbonate of soda twenty grains. Mix. One tablespoonful every three hours is excellent for after-pains, as it relaxes the neck of the uterus, permits egress of clots or pieces of membranes. If it fails, loosen the bandage and apply hot fomentations, vaginal injections, warm, to hasten expulsion of clots. Rubbing the abdomen gently with concentrated ozone is of great utility. The insertion of one or more cones of great efficacy. Aid nature every way possible by hot diaphoretic teas, catnip, sweet marjoram; passiflora and pulsatilla are efficacious in mild cases.

Hemorrhage after Delivery.—This may be due to retained

placenta, to shreds of membranes, to clots, to profound relaxation from long, hard labor.

The placenta must be removed, the uterus cleared of its contents, vagina and rectum both thoroughly washed out with hot injections of boroglycerid, and the roller with compression over the uterus applied.

Keep patient very quiet in a recumbent posture, head low, elevate the foot of bed, give cold drinks, allow no excitement. If these means fail give the mixture of turpentine, alcohol and sulphuric acid, or ergot, quinine, alum, iron, sulphate of alumina.

Retained Placenta.—If due to inertia, use friction over the abdomen, inject the vagina and rectum. Give ergot, quinine, caulophyllin. If the placenta is adherent, wait some hours, evacuate the bowels, put dry heat over the uterus, give hot stimulants. Cause the patient to sneeze. Hot punch. All this failing, insert the hand, in form of a cone, back of it well oiled, into the cavity of the uterus, grasp the placenta. The pressure of the hand usually excites contractions; if it does not, it must be detached. Leave no fragments. If there is an hour-glass contraction, withdraw hand, administer several teaspoonfuls of tincture of lobelia with a few drops of tincture of belladonna and gelsemium. As soon as the physiological effects of remedies and relaxation are complete reinsert the hand, when it will readily pass through the contraction, then seize the placenta and withdraw. The above effectually relaxes the circular uterine fibres.

Prolapse of the Cord.—If there is no pulsation in cord it is unnecessary to interfere; if there is pulsation, return it if possible.

Place the patient in a kneeling posture, and, if possible, return it with the hand, or by means of a loop of tape, attached to the end of a gum catheter. If this is unsuccessful, terminate labor speedily by use of forceps or otherwise.

Placenta Praevia.—Place the patient on the back, with hips elevated, shoulders low, and if the neck of uterus is not dilated sufficient to admit the hand, pack the vagina with the tampon. Do not leave this too long, about three or four hours. See to the bladder and rectum. As soon as the parts are dilatable and presentation of placenta complete, insert the hand, push it past that portion which is detached, and rupture the membranes if they are entire, and seize the feet, bring the toes down, pointing to either inner aspect of the mother's thighs, and deliver as rapidly as possible.

Turning.—Version or turning is necessary in placenta prævia; prolapse of the cord; the shoulder, or arm, or transverse presentation, rupture of uterus, death of mother, convulsions, mania.

Try first, if os uteri is not dilated, or but slightly so, to determine the position of the head, and by combined action of both hands, gradually work the head downward and up, until the head is brought to present at os uteri, when the membranes should be ruptured, one finger into os uteri, the other hand use for manipulating the abdomen.

If the above cannot be done then it is necessary to wait till the os is dilated or dilatable. Keep patient anesthetized with a mixture of alcohol, 1; chloroform, 2; and ether, 3. Mix. Bring the hips to edge of bed. Bare your arm and anoint the back of hand and arm with sweet oil. Insert it up in form of a cone into the vagina; pass it on between the membranes and uterine walls. Carefully search for the feet, rupture the membranes and seize them; bring one or both down, the toes pointing to thighs of the mother. Once over the breach, as in the pelvic basin, terminate labor in the natural way.

Instrumental Delivery.—The use of the forceps. The parts must be dilated; empty the bladder and bowels; keep the patient anesthetized. This is not, or may not be, necessary, if child's head is at the outlet. Immerse the blades in warm water. Place the patient across the bed, hips at the edge, separate the thighs and have some one to hold them. If the membranes are still intact, rupture them. Lard or oil on the convex surfaces of the blades; stand between the limbs of the patient. Take male blade into left hand; hold it nearly upright; pass two fingers of the right hand a short distance into the cervix on the right side between the fetal head and uterine wall, then introduce the point of the blade along inside of fingers, and pass it gradually, lowering the handle until the convexity of the child's head is grasped by the fenestrated portion of blade; depress the handle near perineum. Here take the female blade in the right hand, and begin by holding the blade in an upright position; in the same way, but by reversed movements, pass the handle down and lock the two. Operate with gentleness, don't apply force.

Traction.—Make the traction only during a pain. If the head is high, the direction should be first downward, and, as the head gradually descends, move upward until just before the head escapes from the vulva, when traction is at almost right

angles with the long axis of the patient's body. As a general rule, the direction in which the blades point denotes the line of traction.

Craniotomy.—Place the patient in the same position as when the forceps are applied. See that the bladder and rectum are empty; pass the fingers of the left hand up to the fetal head and carefully pass the perforator along palmar surface until it reaches the head; take care that you do not injure any of the maternal soft spots. Perforate the cranium, break up and evacuate its contents. Sometimes nature enforces the expulsion of the child.

Twins.—As soon as the first child is born and separated from the mother apply a bandage about the abdomen, and wait for expulsion of the other. Do not attempt the removal of placenta of the first child until after the birth of the second one. If the two placentæ remain in the vagina twist the cords together and deliver in the ordinary manner.

MOLES.—Moles are patches of variable sizes in the skin, colored by pigment, often raised above the surrounding skin, and frequently covered with hair. They never grow on the body after birth, but are always congenital. They can hardly be called tumors, for they show no tendency to increase in size. Tumors, however, such as sarcoma, or cancer, may, later on in life, begin at a mole and extend from it. The mole may gradually increase in size, become more and more prominent, until a lobulated, dark-colored tumor has arisen. Such an enlarged mole may be greatly irritated by the friction of the clothes, and may ultimately ulcerate and give a good deal of trouble. When such a condition is present, the surgeon's knife is the best and the simplest remedy.

With regard to smaller moles, if on the body or limbs, they give no trouble, and it is unnecessary to interfere with them. A large mole on the face may be a disfigurement, and hence one may naturally desire to get rid of it. Ladies are often particularly anxious to get advice on the subject of the removal of a disfiguring mole. The leading pathologists of the present age assert that moles are of epithelial origin, incomplete sarcoma derived from the epidermis, the cells of the tissue composing the mole show this origin.

The pigment of a mole is due to an adventitious deposit of iron, not essentially at first to melanotic sarcoma. This usually comes later on, if it suffers irritation and vitality be weakened.

Malignancy is not a positive characteristic, but in all those growths, the cells being epidermal, the slightest alteration in the protoplasm itself is liable to give rise to that condition; hence the rule of sound practice is to destroy moles, in whatever region they may be, by painting them (according to their size) several times with liquid chloride of chromium. One application only being necessary, pain subsides in a short time; no dressing is required.

MOUTH, ITS DISEASES.—The tongue is exposed to many sources of disease and injury. It is a highly sensitive organ; hence, slight affections of its mucous membrane or its muscular fibres are highly painful.

GLOSSITIS.—Inflammation of the substance of the tongue is a rare affection, since mercury has been nearly discarded from practice; when it occurs it is usually dependent upon constitutional causes, or some irritation applied directly to the organ.

In either case there is fever, great nervous depression, and debility. The local symptoms are those of pain, heat, redness, swelling. The tongue becomes of a very deep red color, and so swollen that it fills and protrudes out of the mouth. It usually comes on quickly, and is often attended with urgent symptoms, and requires prompt treatment, as active purgatives, followed by hypodermic injections of one-third of a grain of pilocarpin, heat to feet, poultices of slippery elm to tongue, and suppositories of veratrum viride and gelseminum per rectum. If mercury is the cause, iodide of potassium, chlorate of potassium gargles, and sulphurated potassium baths, or both.

ULCERS, CRACKED, AND OTHER MORBID STATES OF THE TONGUE.—The tongue is not only an index of the condition of the stomach and alimentary canal, but often a valuable criterion as to the state of the nervous system and intensity of blood poisoning.

The strawberry tongue of scarlet fever, the raw, fleshy-looking tongue of gastritis, the patchy, ulcerated tongue of typhoid fever, and other states of great exhaustion. The soreness in the organ is relieved by bland food, mucilaginous drinks, smearing it with vaselin ointment, or using mouth washes of chlorate of potassium and glycerin, or borax and honey in infusion of bayberry.

Ulcers, the result of malnutrition, or of inflammation, or irritation from old stumps; the removal of the cause, the use of emetics and bitter tonics. As those ulcers are generally

very small, superficial, without definite shape, very sensitive, most numerous at the tip or bridle; in addition to internal tonics they are readily cured by infusions of golden seal and borax, or sage-tea and borax.

Mercurial ulcers are common; not so much to internal exhibition of mercury as to the use of amalgam in filling teeth, especially large cavities. They are very easily recognized by the fetor of the breath, affection of gums, salivation. The removal of the cause; the use of chlorate of carbon as a mouth-wash, and iodide of potassium internally.

Syphilitic ulcers are easily recognized by their copper-colored appearance. In mild attacks most common on front part of tongue and edges and superficial aspect; in more aggravated cases they occupy the root, and they are deep and intractable. The general treatment for syphilis, with mouth-washes of infusions of sage and borax, hyssop and chlorate of potassium, echinacea.

There are also tuberculæ, cancerous and other forms of ulceration; constitutional remedies, with local antiseptics.

Cracked Tongue.—They may be fissures, transverse, if intestinal irritation; or longitudinal, of kidney irritation; or, more generally, they are the clefts and fissures of malassimilation, forming a series of irregular grooves often quite deep, rendering eating, speaking, or reading difficult and painful. Cured by sage-tea and borax, glycerin and chlorate of potassium, golden seal and alum.

Surface of tongue often presents patches of baldness, one or more smooth oval patches; no ulceration or fissure, indicative of a syphilitic taint; alteratives and tonics.

Warts are usually met with at the edges of the root of the tongue, and are presumptive of syphilis. Condylomata are not uncommon in same disease. Papillary patches, thickening, induration, give an unpleasant feeling to the organ in speaking, causing thickness of speech called psoriasis and ichthyosis; often precursor of cancer.

Hypertrophy of tongue is rare; when it does exist, it is so large that the mouth is too small for it. In some instances it protrudes as far as the chin. Its removal by ecraseur is the only cure.

Tongue-tie, when the frenum or bridle is shorter than usual, the movements of the tongue are interfered with, the bridle has simply to be cut.

All kinds of tumors, fatty, fibroid, encysted, etc., are met with here; extirpation is the proper remedy.

Ranula (so called because the voice is said to be croaking like a frog's) is a semitransparent, fluctuating swelling as large as a walnut, situated under the tongue. It consists of a dilation of Wharton's duct of submaxilary gland. Painting it with the perchloride of iron, or passing a seton through it, is usually sufficient to effect its disappearance, using mouth-washes to heal and strengthen.

CARE OF THE MOUTH.—Perhaps no part of the body is so often neglected as the mouth; especially is this noticeable in the case of children. A mother who will religiously bathe her child and keep its body sweet and clean will often fail to cleanse its mouth. A new-born infant should have its mouth washed after each feeding; a soft cloth wet in a weak solution of boroglycerid should be used for this purpose. If this were always done we would rarely find a case of infantile sore mouth.

After the teeth come and the mouth is large enough, a small, soft brush should be used; the teeth and mouth should be thoroughly cleaned at least twice daily.

In illness where sordes and mucus accumulate rapidly, and where the tongue and lips are parched and stiff, attention is needed every hour; the mouth should be kept moist and the same treatment carried out through the night as during the day. Boroglycerid solution, lemon juice, glycerin and distilled water are all refreshing, and soften the tissues; where the lips are chapped or fissures appear, a lubricant of cold cream or ozone ointment should be applied. Where the gums are spongy or soft, and bleed readily, a few drops of tincture of myrrh added to pure water will help to harden them. Small squares of old linen or soft gauze should be used instead of a brush where one is ill or weak. These should be immediately burned after use.

Every part of the mouth should be cleansed; behind the wisdom teeth, the roof of the mouth, and under the tongue; lemon juice and water will remove the fur from a thickly coated tongue. Where the teeth are sensitive the water used should be slightly warm.

MUCIN.—A compound substance composed of a proteid and carbohydrate, which are the chief constituents of mucus, a substance very widely distributed throughout the body, in the mucous membrane, gland cells. There are numerous varieties, but all are viscid, tenacious. Its functions are very varied—a protector of delicate mucous membrane, a lubricator; poured

over an abraded membrane, causes it to heal with marvelous ease and rapidity. When administered, its good effects are at once visible—immediate relief of all painful sensations in the stomach; it regulates the bowels; otherwise physiologically soothing.

MUCOMEMBRANOUS COLITIS.— Bears a strong relationship to desquamative enteritis in that both have the passage of shreds, skins, exfoliation of the mucous coat of the intestines. A catarrhal affection, due to a secretional irritation of the mucous membrane of the large intestine, and depends either upon some neuroses, or hyperesthesia of the walls of the bowel or its centre in the brain. Invariably associated with some neuropathic tendency, nervous disease, either of the genital organs, or brain or cord, or constipation, or auto-intoxication, or organic disease of the bowel.

Its characteristics are the passage of large mucous masses, tenderness of the colon, coloptosis, interstitial atony with the colitis usually alternated with constipation and diarrhea and the evacuation of masses of mucus and shreds.

In the cure of this condition, regulate the bowels with kolatina, administer matricaria for a tonic, one week give kaki in infusion freely as a drink; the following week Virginia stone crop; continue this treatment for a few months. Add nutritious, easily digested food. Occasionally either a few drops of peroxide of hydrogen or echinacea could be added, if stools be very feculent.

MULLEIN OIL.—Otalgia when reflex calls for the removal of the cause; when not reflex, but is periodic, concentrated tincture of kurchicin; if due to syphilis, comp. saxifraga and periodate aurum; when the pain is deep seated, agonizing, or even superficial in the cervical plexus, mullein oil is the remedy.

Before dropping this in fill the ear with peroxide of hydrogen, head horizontal on a pillow, affected ear uppermost; let it remain five minutes, then evacuate it and drop in half a dozen drops of mullein oil; never failing for earache.

Another excellent formula is to rub up five grains of hydrochlorate of cocain in one dram of concentrated ozone; mix thoroughly; rather an empirical prescription, but it invariably affords instant relief.

The following internally has been found useful in the otalgia of the gouty: Add to two tablespoonfuls of water, one teaspoonful of aromatic spirit of ammonia, fifteen drops of green

root tincture of gelsemium, fifteen grains each of chloral hydrate, bromide of potass and bromide of sodium. Take at a dose; instantaneous relief.

MUMPS.—Just below the lobe of the ear, folded, as it were, round the angle of the lower jaw, is the largest of the salivary glands, the parotid. It is the favorite seat of many toxins, such as those of typhoid, typhus, scarlet fever and other contagious maladies, a location whence originates many tumors and abscesses. During several seasons in many states and localities, mumps or epidemic parotitis prevailed quite extensively. Inflammation, attended with pain, heat, swelling, considerable pyrexia, movements of the jaw difficult and painful. Advanced physicians in scientific therapeutics have most successfully treated this condition thus: Jelly of violets over the entire gland; passiflora and gelsemium, in alternation with the sulphide of calcium internally, this latter remedy frequent. With these remedies not a single case of metastasis, either to the breast, testicle or ovary, occurred. Febrile symptoms in all cases subsided in twenty-four hours.

Suppuration of this gland, due to the toxins of disease germs lodged in its interstices, an unfavorable complication of any disease, may be prevented by exhibition of the sulphide of lime.

Epidemics of this malady have prevailed extensively of late in our public schools. The exact origin of the disease could not be traced.

All cases were ushered in with a slight indisposition, followed by a rigor, rise of temperature and the characteristic swelling, which was well marked and in some cases extended over the neck. Temperature fell on third day, unless orchitis or ovaritis supervened, when it rose again.

Antiseptic mouth washes of boroglycerid were used in all cases, with concentrated ozone over the parotid, which acted as an efficient microbe killer, promoting resolution and affording relief of pain.

In orchitis, the application of a fifteen-volume c. p. peroxide of hydrogen acted like magic.

The commencement of the disease begins by the entrance of the germ into the mouth, spreading to the glands along the ducts, hence the value of germicidal mouth washes. In cases where they were used freely, orchitis seldom put in an appearance. Isolation and disinfection are indispensable as prophylactics.

MUSCÆ VOLITANTES. Specks and spots floating before the eyes; may be a symptom of either cerebral exhaustion, or a failure of the liver (torpidity) to work off toxins, a slight auto-intoxication, effete elements in the blood, penetrating the aqueous humor; the image of the body, being imprinted on the retina, passes before the field of vision, interfering with it, hence specks, spots. Taking a more scientific view of it and the opthalmoscope for a guide, it would seem that the vessels of the aqueous humor are varicose, lost their contractility, and the brain, looking through the optical apparatus, sees objects which she compares to things in nature; this latter idea is confirmed by its presence in masturbators, excessive or prolonged lactation, hemorrhages, anemia. So that both ideas may be correct.

If due to morbid products in the blood, administer periodate aurum for a short time, which promptly removes the often too great annoyance. If due to brain anemia, give tonics, comp. matricaria, c. p. solution of spermin.

MUSCLES AND TENDONS.—The muscles of the body act like so many ropes or pulleys upon the bones, for the purpose of locomotion. They rarely suffer from disease, unless it be those peculiar to muscular structure, viz., atrophy and hypertrophy with fatty degeneration.

MYOSITIS.—Inflammation of muscular structure is rare; indeed, the heart is about the only muscle in which we see at times inflammation thoroughly established. Circumscribed inflammation in other muscles may be the result of injury, strains, over-exertion, disease of bones or adjoining textures.

Symptoms.—Pain, greatly aggravated by any movement of affected muscle. It becomes localized; there is heat, swelling, the latter distinct, resembling a tumor; rigors and fever. It may terminate in effusion of lymph, thickening, induration, or in a breaking down of lymph, suppuration.

Treatment.—Control fever with aconite and serpentaria; relieve pain with anodynes; apply hot alkaline poultices during the day, and linseed poultices, with tincture of opium, at night; nourishing food; establish convalescence upon tonics.

MYALGIA.—Stiffness, soreness, cramp, or pain in the voluntary muscles of the body, may be due to various causes; for example, in young persons of rapid growth, persons in whom the bones grow faster than the muscles, the muscles and tendons become stretched, and the individual suffers from what is

termed *growing pains*. These are often quite severe, and involve both the fleshy part of the muscles as well as its tendons, either the centre, or where it is inserted into the bone, or both. It is often due to a strain, lift, over-exertion, and involves the muscles of back, chest, abdomen, arms, or legs. It is also a symptom of a shock from cold, great nervous prostration, and is thus prominent in certain diseases, as fevers, inflammation, parturition, rheumatism, scurvy, tuberculosis, cancer, chlorosis, leukocythemia, dysentery, diarrhea, prolonged lactation, exhausting maladies generally, and spermatorrhea.

Symptoms.—Pain is the chief symptom; and this in its degree and intensity bears a direct ratio to the amount of debility that is present. Where it depends on too rapid growth of bone in young persons, they seldom complain of it in the morning after a good night's rest, but comes on after exertion, and gradually increases till night. In the case of the masturbator, or those suffering from seminal losses, pains in the morning, and rather wear off during the day; whereas in the case of disease, mostly an aching all the time. The pain in all cases, however, is aggravated by movement. General health in all cases is poor; skin cool, pulse natural or depressed; appetite good, clean tongue. In bad cases there may be night-sweats, loss of appetite, impaired digestion, constipation, no vigor or energy, inability for work, severe mental depression.

Treatment.—The principles of treatment will be modified by the cause, but all cases require good nourishing diet, as animal food, boiled fish, oatmeal, porridge, cream, raw eggs, fruit, vegetables in abundance; tonics, as cinchona and mineral acids; sulphate quinine and aromatic sulphuric acid; quinine, iron, hydrastin, nux pill. Rest for the affected muscles, by splints or otherwise. Massage to be performed twice daily; begin with half-an-hour treatment, and increase length to two hours, if patient has means to carry out treatment. In the massage treatment, bathe a limb with soap and water; dry; use dry hand until there is a glow of warmth; then shampoo, rub, knead, and otherwise manipulate with warm olive oil; then another limb in same manner until the entire body is massaged. Electricity can follow if case is bad, or in a hurry to get well.

MUSCULAR ATROPHY.—Muscles may waste, their fibres become pale, small and inelastic. This may happen from want of use or exercise, or from injury to their nerves, as in fevers, injuries, disease, or from sxposure to cold, damp, or from some affection of the nerve centres; the muscles of an arm or

leg may be smaller, as it were, by a blight. The affected member may become chilly, skin numb; it becomes imperfectly nourished and decreases in bulk; or if the patient be young, it fails to grow in proportion to the rest of the body. Some cases of atrophy may be attended with pain, especially if its nerves are irritated by blood poisons.

If atrophy is not cured, it progresses on to fatty degeneration; that is, the muscle or muscular fibres become usurped by fat, an inelastic body, and their power for movement is irreparably lost. This can be ascertained by placing the positive pole of a battery near its origin, and the other near its insertion, permitting current to run pretty strong, and bring the poles within four inches of each other. If muscular fibre is still good, muscle in a few minutes will bulge up or contract at its centre between the two poles of the battery; if muscular fibre has become usurped by fat, it will lie quiescent, and exhibit no signs of contractility.

Treatment.—If the muscle has undergone fatty degeneration, no known remedy will avail; but if there is still evidence of contraction between the poles of the battery, a cure can be effected if the cause can be removed; so that the treatment embraces a general tonic course, as cinchona and mineral acids; very nutritious food, stimulating frictions, shampooing, manipulation, passive exercise, electricity, baths, etc., so as to promote growth and keep the muscular fabrillæ exercised. It may take months, but by constant perseverance with the massage twice a day it is bound to come.

If there is pain, stiffness, with spasmodic action, muscle rigid as well as wasted, the cause should be removed, and the case managed on general principles.

HYPERTROPHY OF MUSCLES.—Muscles may suffer enlargement by excessive use. The muscles on the arm of a blacksmith or prize-fighter are enormously developed. In the former it is quite common for the right side to measure four or five inches more than the left. This can only go on to a certain extent—to a degree of growth in which there is an adequate nerve supply; when that limit is reached, and exercise still continued or persisted in, fatty tissue will begin to take the place of muscular fibre, and the muscle will lose its contractility and become useless, because it has undergone fatty degeneration.

The treatment is rest and alteratives.

MUSCULAR DEGENERATION.—Over-exercise is bad for the individual. It wastes vitality, weakens the system, fills it with poisonous fatigue products, and, if persisted in, shortens life.

But the other extreme is equally bad. Failure to develop the muscles, or their degeneration for want of systematic, moderate use, predisposes to a disturbance of nutrition and circulation, leading to accumulations of fat on one hand and imperfect elimination on the other.

Obesity, constipation, torpid liver and kidneys, fatty heart and fibroid degeneration of the blood-vessels, are some of the results of muscular degeneration. The substitution of fat for muscle in the abdominal walls and hips is responsible for prolapsed and congested viscera. Displaced and congested organs will not functionate normally, of course.

Muscular degeneration affects the joints, leading to fibrous changes, drying up of synovial fluid and the deposit of urates. In their turn, these irritating products in the joints will cause sensory and motor neuroses, which pain and disable the individual.

Muscular degeneration also occasions anemia, because activity of the muscles is directly concerned in the production of hemoglobin, and hemoglobin carries the oxygen to burn tissue waste into soluble products easy of elimination.

This burning also produces heat and energy, keeping us comfortable and furnishing the power to work.

Moreover, the normal development and moderate regular use of the muscular system overcomes such moral faults as timidity, indolence, procrastination, lack of perseverance. In a word, helps to discipline the moral powers, and gives the individual command of all his forces. Endurance is increased and courage fortified.

MUSK ROOT.—Ozonized fluid extract of sumbul in doses of from 30 to 60 drops, every three hours, is our best remedy in epilepsy and chorea; its action is chiefly upon the medulla and cord, a vitalizing sedative and astringent, wards off the attacks, and causes their disappearance.

MYELITIS.—*Inflammation of Substance of the Spinal Card.*—Is recognized by spinal pain; formication; tingling, numbness and coldness of extremities; at first convulsions, afterward paralysis which extends gradually, often affecting the sphincters. In the *chronic* form, unusual fatigue: then paralysis, tremors, tottering gait or inability to stand. Active treatment with cups.

ORGANIC DISEASE OF THE SPINAL CORD.—Including *Hyper-*

trophy, Atrophy, Aneurism, Hydatids, Tubercles, Sclerosis. S.: Pain of various degrees and character; disordered sensations in limbs and surface; muscular weakness; paraplegia, paralysis of rectum and bladder.

SPINAL IRRITATION.—Various symptoms, one being a constant tenderness on pressure over some part of the spine; symptoms as if from severe gastric, or pulmonary, or cardiac disorder; neuralgic pains.

General Measures.—In all obscure spinal diseases, alteratives and tonics; rest; constant applications of irritating plasters on both sides of the spine, massage. Innumerable remedies act specially on the cord or its membranes, as nux, rhus, cinchona, passiflora, cause an increase of blood to the part, whereas belladonna, ergot and like remedies diminish the flow.

NAPHTHALIN.—This remedy is acquiring quite a reputation as an antiseptic and disinfectant in certain diseased conditions of the tissues.

Administered internally, orally and per rectum, it is a most valuable remedy in all cases of typhoid fever. A microbicide which can be relied on every time it is given.

In cutaneous diseases, especially eczema, that often obstinate catarrhal inflammation of the skin, an ointment, strength ten per cent, will promptly relieve burning, tingling, pain and pruritus.

Even a two per cent solution is an antidote to the poison of vines and insects, invariably affords prompt relief. A similar solution acts well in burns, causing the rapid subsidence of the inflammation.

The remedy is cheap, but good.

NASAL CATARRH, CHRONIC.—An infectious and contagious disease, capable of spontaneous origin in the degraded living matter concerned in the nutrition of the Schneiderian membrane (under adverse conditions) into the disease germ ameba. The very great prevalence of this disease in all parts of the country, the great havoc it causes in the olfactory tract, sinuses of the head, Eustachien tubes, throat, bronchial tubes, brain and blood, renders its correct treatment of vast importance. The vast amount of unsuccessful treatment results chiefly from its true etiology not being duly appreciated.

The evolution of the ameba causes the mucous membrane to

become congested, thickened, and even the bone becomes hypertrophied and a special diathesis is created.

We claim that ozone et chlorine will positively cure nasal catarrh; that is, if used by the douche it will drive every ameba from its nestling-place. This can be effected in one treatment, as has been demonstrated by numerous specialists; but if the case is very chronic; if there has been organic changes brought about; if there is tubercular or syphilitic germs lurking in the blood, a more varied course of medication is indispensable.

In addition, therefore, to the destruction of the disease germ ameba in the air-passages, whether by one heroic treatment or several milder ones, there should be invariably a tonic and alterative course pursued for months.

As tonics the best results are to be obtained from the glycerite of ozone. As an alterative, the ozonized saxifraga stands unrivaled. It is most potent in freeing the blood from disease germs. It should be given in large doses and persevered with. It acts according to the quantity given—cleanses the blood of all disease germs.

NATIONAL DEBILITY.—The American nation is essentially neurasthenic—suffers a deterioration. A general national weakness pervades its most tiny village up to its metropolis. This state permeates all, as is indicated by the dudes of modern society, the general childishness and foolishness of the masses, the incipiency state of imbecility, the small heads with dwarf intellects, etc., etc.

To what can this weakness or vital deterioration be due among the best-fed and best-clad nation in the world? *Not* to a highly oxygenized atmosphere, *not* to incompatibility of races, *not* to the germs of syphilis or tubercle, but rather to the hidden vice of masturbation, which dwarfs mental and physical growth and vigor.

The constant drain of seminal fluid, the most highly vitalized substance in nature, entails upon the individual loss of flesh, digestive power, of mental energy and a despondency of the most deplorable kind, with brain disease of some special type, loss of memory, epilepsy, softening and insanity. In addition, there are local complications or diseases innumerable, as affections of the bladder and kidneys, irritation and softening of spinal cord, diseases of the testicle, varicocele.

Indirectly, seminal losses so weaken vital energy that the

normal embryonic living matter becomes changed, altered, degraded into other living matter, disease germs, the bacilli of tubercle, one of the most frequently developed under the influence of sexual abuse or perversion. The mortality from tubercle is great; few realize the fact that its real cause is sexual indiscretion.

The great increase of albuminuria, cardiac disease, asthma, are to be traced to the same source.

Rheumatism and gout are often directly due to the general prostrating effect of masturbation on the nervous system. Physiologists have recently discovered that the composition and mode of production of the nervous substance and the seminal fluid are almost identical; that in fact they are essentially the same thing. It has also been ascertained that, in all cases of severe nervous or mental derangement, the actual substance of the brain and nerves either wastes away or undergoes a destructive change. And in the same way, in all cases of confirmed loss of sexual power, the seminal substance either wastes or becomes destructively changed in a similar manner. But, what is still more important, the destruction or injury of either one of these elements of our systems brings on inevitably a similar evil to the other. Every man, therefore, who becomes impotent is in immediate danger of becoming insane, or at least of weak intellect.

The male and female sexual systems, the entire reproductive and urinary apparatus of both sexes, derive their principal nerve supply from the general reservoir of the great sympathetic, on which depends the performance of all vital functions.

The heart, stomach, intestines, also larynx and lungs, in all civilized men, derive an abundant nerve supply from the same source.

Drain off this nerve supply by grief, worry, care. Exhaust this nerve supply by sexual excesses, masturbation, with its sequel spermatorrhea, and there is at once a want of nutrition from the sympathetic, and a failure on the part of vital organs, especially the heart.

The weakness of the heart muscle is visible in the unsteady gait, in the bloodless brain, in the vertigo; the cold, clammy hands and feet; the cold, moist skin; in the weakness of all the tissues; in the greater frequency of varicole in all masturbators and libertines.

Heart failure is becoming exceedingly common among both young and middle-aged men, and should in all cases receive

prompt attention by checking off all seminal losses, which are productive of cardiac disease.

The condition now called irritable heart is analogous to irritable uterus, irritable ovary, irritable breast, irritable testes, irritable eye and ear, spinal irritation and cerebral irritation, and it is very often associated with the nervous dyspepsia of an irritable stomach; indeed, nearly all, if not all, the organs of the body, and the whole body, may fall into a state of irritability with symptoms that simulate and suggest organic disease, and which are very often mistaken for such.

In the irritable heart of the sexually exhausted there may be the extreme of slowness or the extreme of rapidity, from thirty or forty up to one hundred and ten and thirty. Slight exertion or trifling emotional influence suffice to put up the pulse all the way from twenty-five to seventy-five per cent; climbing mountains, going up hills even, or but one or two flights of stairs, the sudden meeting of a friend, a start or shock of an exceedingly insignificant nature, are enough to produce this effect; it is very hard to convince such persons that they have not organic disease of the heart, especially as precordial pain and uneasiness and distress and intermitting go with this high or low pulse.

Functional disorders of micturition are to be diagnosticated from similar symptoms coming from stricture by their capriciousness, and demonstrable dependence on nervous excitation. Some of these cases have ordinarily no trouble in urinating, but if they chance to be at a public urinal, where a line of persons is behind them waiting for their turn, they can do nothing. This is a very good illustration of one of the phases that this function assumes in condition of debility. It is mainly subjective—*mind acting on body.* But if the parts were in their full strength the mind would not produce this effect. Their very anxiety to urinate in order to make way for others, keeps them from doing it. Analogous illustrations in other functions are very abundant. Extreme exertion of the will defeats its objects; hysteria and hystero-epilepsy, and especially trance, exemplify this general law in ways innumerable. It is, indeed, one of the diagnostic features of trance that the subject cannot do the very thing that he particularly wants to do. A sign that a mesmerized subject is under the influence and ready for experiment is the inability to open the eyes when commanded to do so, and when, with all his might, he tries to do so and fails. There are cases of hysterical paralysis that

only recover when we succeed in calling off the patient's attention from the paralyzed limb to some other portion of the body. The attempt to walk makes it impossible for them to walk. When the symptoms come from stricture or from contracted meatus or phimosis, they are more likely to be permanent until the source of the irritation is removed.

The extreme stages of these morbid phenomena are so well known that it is not needful to more than refer to them for the sake of completeness. The milder, subtler and more evanescent degrees of these affections are, however, but rarely thought of or appreciated. Impotence is a symptom of very wide range and gradations, beginning with premature emission, or simply waning pleasure in the sexual act, and advancing through the stages of ejaculation before intromission, deficient desire and power, to absolute want both of desire and power. Similarly, involuntary emissions may be so rare, or may occur several times nightly, or even in the day. They may or may not be complicated with true spermatorrhea, that is with the flowing away of the semen in the urine, or at the stool, or on excitement. The existence of even quite frequent involuntary emissions by night or day is not a proof of the existence of true spermatorrhea. There may be very frequent emissions and yet no spermatozoa in the urine or any discharges at stool. On the other hand, emissions may be infrequent, as rarely as once or twice monthly, and yet spermatorrhea may be active all the time. Indeed, it would appear that the spermatorrhea acts as a relief for the accumulated seminal fluid, and saves the nocturnal discharges. Thus it happens that patients are often deceived; they observe that their emissions are less frequent, and suppose that they are recovering, when really the fluid is but taking another mode of exit. Only the microscope can answer the question whether spermatorrhea does or does not exist. All conclusions formed from the various local or general symptoms may be swept away by careful and repeated microscopic examinations by an expert with that instrument. True spermatorrhea is yet far more common than is admitted by the medical authorities. It is not found because it is not looked for, and usually not even suspected. In the majority of cases where trouble with the genital system is suspecetd by patients, some form of trouble does exist. It may not be what the patient suspects. It may not be so grave as he has fancied, but there is usually something abnormal that requires treatment or hygiene, and there is also need of sound instruction on

the whole subject of the management of this function. The long-disputed question whether seminal discharges take place from the penis during or directly after stool, and, in some instances, during any form of sexual excitation, the microscope answers in the affirmative. In many instances—perhaps in the majority—certainly in the majority of those discharges that take place during erotic excitement, the fluid discharged comes from the prostate or from Cowper's glands, or from both; but in a certain proportion of cases it is just as depreciating, perhaps even more so.

By mere analogy we speak of nations as we do of persons, for being a collection of individuals, they act after the manner of persons, and have their period of youth, colonization and decay. A national disease may be defined a state in which it cannot direct its energies towards self-preservation.

A diseased organ in a nation may destroy it; that might be a bond-holding aristocracy; lack of a true religion; a corrupt government; imperfect nutrition from adulterated food; poisons, alcohol and tobacco; epidemic diseases, as malaria, syphilis, tuberculosis, cancer, fevers and infectious maladies; mental shocks, panic or prostration of the national energies; sexual decay from masturbation, immoderate sexual intercourse; subversion of the sexual powers; the diminution of the population from many causes; an avoidance of the state of motherhood are most insidious and dangerous causes of national decay.

Imbecility, criminality, delusions sap the life of nations.

An inordinate mental exaltation, imaginary greatness in all things, leads to a national disease of the emotions which may prove to-day, as in the past, "very fatal."

NEPHRITIS (*Acute and Chronic*).—Acute and chronic inflammation of the kidneys may be caused by lifting, hoisting, mechanical violence, or by gout, rheumatism, uremia, calculi.

Deep-seated pain over the kidneys, aggravated by motion, pressure or jar. The urine very scanty, high colored or mixed with blood, nausea, vomiting. Fever, if it is the acute form.

Try one or other of the following remedies: Aconite, thallin, passiflora, belladona, gelsemium, uva ursi, queen of the meadow, digitalis—infallible in renal congestion.

In the *acute* form dry cups over the kidneys, followed by dry heat; hops or bran; mucilaginous drink like marshmallows; in the *chronic* form, locally, irritating plaster, concentrated ozone; internally nitrites, cinchona, alteratives and tonics.

NEPHRITIS, INTERSTITIAL.—A gradual breaking down of the kidney; chiefly internal structure that gives way, with breaking down of its healthy substance; persistent presence of albumin of the urine. In heavy drinkers, or in scarlet fever patients, it takes on an acute form; urine highly albuminous and very scanty. It is met with generally in a chronic form, when the symptoms are most obscure, until it merges into dropsy. It has three stages: Congestion, degeneration, atrophy, or breaking down.

If the patient is tubercular and suffers from syphilis or a poverty of nerve force, the degeneration will be amyloid or starchy. If he indulges in alcoholic drinks, the degeneration will be fatty.

Prognosis.—First stage: If treatment is good, recovery; at stage of degeneration, recovery rare; and atrophy or tumbling in of kidneys is invariably fatal. Common cause of death is uremia.

Remedies.—Alteratives and tonics; gallic acid and port wine; digitalis, coca, cure numerous cases; phosphorus, glycerite of ozone; kephalin; avena sativa; nitric acid, aromatic sulphuric acid; cinchona, nitroglycerin, apocynum.

General Measures.—Adopt measures to keep the skin active and promote free diaphoresis, give vapor baths; salt water baths, sponging with salt and alcohol; flannel clothing; avoid changes of temperature; open-air exercise, never to fatigue the body.

Milk, eggs, fish and beef, for diet.

NEPHRITIS MALARIAL.—The malarial germ belongs to the vegetable kingdom, is a protozoon; certain varieties of the organism give rise to different types of fever. Once in the blood, it is invariably present in all the cycle of changes which it undergoes, corresponding to a type of fever (quotidian) which occurs either in twenty-four hours, or (tertian) in forty-eight hours, or (quartan) in seventy-two hours.

Kidneys feeble from any cause, pathological changes are induced by the elimination of the toxic products of the germ which gives rise to malarial nephritis, which is present to a greater or less extent in every case of malarial fever; hence kidney lesions are extremely common, so much so that albumin in the urine is present in sixty per cent of all cases, hematuria to a limited extent.

All practitioners rush to quinine in these cases, an erroneous method, for although it will kill the germ, it is too irritating to

the renal functions; to the kidneys themselves; its action, if administered at all, should be modified by green root tincture gelsemium, or what is still better, either Warburg's tincture or concentrated tincture of kurchicin should be used. Sulphate of quinine itself, unmodified, creates too much congestion of the urinary organs to be of utility in malarial nephritis besides the quinine most dispensed in the United States is an abominable synthetical compound unfit to enter human blood

It is well in all cases of malarial poisoning to look to the kidneys, protect them as the toxin is being eliminated.

Suppositories of quinine sulphide and concentrated kurchicin have been introduced which act promptly in curing malaria and all its complications, provided the rectum be thoroughly cleansed before their insertion—one every three hours.

Spring and fall the atmosphere of the United States is literally swarming with the malarial microbe. Strong vital force on the part of the eighty millions of people who occupy this area resists its entrance, or if it enters the vital elements of the blood, causes its destruction, hence immunity. Very different it is with the feeble, the devitalized, the neurasthenic.

This microbe enters, and if quite exhausted it lives, grows, multiplies immensely and enters the red corpuscles of the blood and destroys them; in this microbic growth toxins, the products of bacterial life are set free, and they are so abundant, even in mild cases, that neither the breath nor the skin nor liver is able to eliminate them, consequently the kidneys are compelled to aid in this process of ousting a poison.

In doing this they become overworked, exhausted, suffer irritation, relaxed, and an exosmosis of either blood or its albumin takes place; so both conditions either favor hematuria or albuminuria.

So nephralgia, nephritis and other affections pertaining to those emunctories are common. We have on our books an immense list of such cases, showing the efficacy of the green root tincture of gelsemium and passiflora in completely relieving this difficulty and aiding it still further by the exhibition of periodate aurum.

These three remedies never fail to relieve the irritation, affording immediate and permanent benefit.

Any of our readers having obstinate cases of chronic nephritis on hand, whether due to the toxin of malaria, syphilis, influenza, tubercle or alcohol, would do well to try such cases on the ozonized celery comp.—a remedy that neu-

tralizes a poison, one that aids its expulsion, and at the same time strengthens those important glands, and acts as a prophylactic to degenerative changes. Small doses, a steady persistence in its use does effectual work.

NERVE TIRE.—The human body, roughly dissected, presents to the naked eye a brain, a spinal cord and great sympathetic. From these central points nerves pass to various parts of the body, which by the aid of the microscope can be traced to their most minute ramification. The brain, in addition to its being the soul-seat, the matured organ of thought, an organ of elaborate mechanism, has an important function to perform, namely, to elaborate and transmit neurine cells to every part of the body, so as to maintain its nutrition. Waste and repair are carried on, in the human body, during its existence; the waste of the tissue of an organ is in exact proportion to the demand made upon its working capacity. Repair, renewal is in proportion to the demand, provided the proper elements of nutrition exist in the blood; if they do not exist there, the organ injured is incapable of performing its ordinary function. Nerve tire, nerve exhaustion is essentially a disease of civilization, an excessive brain waste, an expenditure of vital force; if repair keeps pace with waste, all is well; if not, if there be a loss, disease. There is no station so exalted, no intellect so bright, no power so great, no influence that can adequately realize the suffering of nerve exhaustion.

Nervous exhaustion may be congenital or acquired; the latter is usually due to an unusual amount of work done by the nerve centres, increased without a proper supply of brain elements being present.

The brain is subject to the same general law of waste and repair as other parts of the body. Every thought, every emotion, every exercise of volition is accompanied by waste; destruction of tissue and its excretion from the body are indispensable. Ther emoval of causes, if possible; seclusion and rest; systematized massage for two hours, morning and night; inaugurate a plan of overfeeding, a diet of brain elements, to which faradization may be added. The patient should go and live in the open air in the country; if he cannot, he should occupy rooms well aired, ventilated, and with full exposure to the sun. Between each period of work, covering a few hours, and especially before and after meals, he should take mild physical exercise in accordance with his tastes, such as walking,

rowing, gymnastics, open-air games, bowling, golf, croquet, lawn tennis, etc. If he cannot go out he can do gymnastics in his rooms, play billiards—in a word, seek distraction and movement. If he finds gymnastics too fatiguing he will derive benefit from carriage exercise. His meals ought to be regular and substantial, with avoidance of alcoholic drinks. Massage and douches are valuable adjuvants.

These cases are much benefited by shampooing the head every day, and then rubbing it with alcohol before drying thoroughly. It is well, however, to begin the treatment with a complete absolute rest from mental labor for several weeks.

NETTLE-RASH.—Urticaria cannot be better described than as an eruption which closely resembles nettle stings, both in appearance and the sensations it gives rise to. When acute, it is generally accompanied with more or less fever. The nettle-rash, in almost all cases, arises from disorder of the digestive organs, and evolution of bacteria, caused either by indigestible food, or in some persons by particular kinds of food. Kernels or seeds, such as almond, peach, etc., which contain prussic acid, seem especially apt to cause nettle-rash, and in some individuals even the pips of an apple have been known to produce this disorder. Fish, particularly shell-fish, also bring it on, or mushroom; also certain medicines, such as turpentine; teething, hurry and agitation of mind in adults, and other irritations, also give rise to nettle-rash. The generally known causes of this affection indicate the remedy—the removal from the alimentary canal of offending matters. If there is tendency to sickness, and if the eruption appearh soon after a meal, an emetic is the appropriate remedy, but whether this is given or not, there should be given an aperient, and as the toxins accumulate in the intestinal tract, administer siegesbeckie tablets to neutralize them. As an intestinal antiseptic, these tablets are unique and remarkably efficacious.

NEURALGIA.—A devitalized anemic condition of some special nerve or nerves.

Its etiology embraces a large class of conditions that would either weaken or exhaust its vitality; all depressing agents, heat, cold, mechanical violence, toxins of disease germs, poisons.

Its recognition is easy, pain of a sharp, lancinating, irregular, intermitting character, shooting along the course of the nerve.

It receives different names, according to its location. If in the brain, cerebral; the face, facial; in the heart, angina pectoris; in the stomach, gastralgia; in the bowels, colic; in the kidneys, nephralgia; in the sciatic nerve, sciatica; in the uterus, uterine; in the eye, ocular; in the ear, otalgia; in the coccyx, coccyodynia; in the breast, mastodynia; in the pleura, pleurodynia; in the testes, testicular.

The general principles of treatment in all cases are, first, to relieve pain as promptly as possible by both local and internal remedies, selecting from a large list either heat or concentrated ozone and menthol; a liniment of aconite, belladonna and chloroform; oil of cloves, gaultheria and menthol; oil capsicum and chloroform, jelly of violets. Whatever is applied, cover to prevent evaporation, and protect from cold, damp. Probably the two best sedatives for internal use are the passiflora and green root tincture of gelsemium.

The second indication is to either kill the germ or neutralize it. Maintain the integrity of the blood. As an all-round alterative, simabicidia is the best, and adapted to every case, no matter what its origin may be; a blood purifier and tonic. To increase blood formation and growth rapidly, acodylate of sodium; as a nerve vitalizer, kephalin and oats; wear warm clothing; rest, no worry, no care, no fret; avoid overwork; daily bathing, regular secretions, and a rich, nutritious diet.

CEREBRAL NEURALGIA.—Removal of cause and the exhibition of large doses of the solid extract of hyoscyamus; if there be poor circulation and great nervous exhaustion, alternate with kephalin granules—not only gives relief, but is essentially curative.

If the pain is paroxysmal, or due to malarial toxins, concentrated tincture of kurchicin may be added.

FACIAL NEURALGIA may be due to the toxines of disease-germs, to the poison of mercury, lead, brass. Relieve pain in all cases; follow with saxifraga, comp. simabicidia, according to cause.

If it depends upon carious teeth, cleansing and inserting pledget of cotton saturated with jelly of violets, most efficacious; if reflex confined to the fifth pair of nerves, a five-grain pill of croton chloral, one every half hour, and relief is obtained.

NEURALGIA OF THE COCCYX (*Coccyodynia*).—Pain, tenderness about coccyx; often sharp, tearing, lancinating; is a most

unpleasant form of neuralgia. Most common in women, on account of their great development of coccyx, and above all, in women of high civilization, who have as an index of that condition a sacrum at an angle well verging on to 45 degrees, and a coccyx most perfect. In women of low civilization the sacrum is nearly straight, and the coccyx almost as rudimentary as it is in man.

Causes.—Hurried labor, or insufficient support to the perineum, whereby the nerves of the coccyx receive a shock; blows, falls, fractures, and horseback exercise, etc.

Symptoms.—Pain in sitting down or in rising, or in walking, or in defecating. Pain is even more than neuralgic, more than sharp and lancinating; there is a general soreness. In many cases patient can only sit on one hip. Any movement or pressure on the surrounding parts gives rise to pain. It is aggravated by menstruation, or sexual intercourse. One boroglycerid pastil every three hours *per vaginam*, with patient in recumbent posture; at the same time a cocain suppository as frequent until relief is assured.

In coccyodynia, as a result of fracture of the hinge-joint, after ossification, in having a child after thirty-five years of age, there is apt to be a laceration of the nerves, and neuralgia established, which gives rise to painful sitting.

This is also present in deep-seated inflammation of the genital organs, especially in the uterus and ovaries, so very slight, however, that the patient does not experience uneasiness, only in the sitting posture.

Relaxation of the great joints of the pelvis towards the end of pregnancy is very natural; they become loose and juicy, and a considerable increase of motion is observed in them. If the labor is long, the presentation not a good one, or the head of the child large, or instrumental delivery, made with force or violence, there may be a low grade of irritation set up in them. So that there is a morbid loosening, which not only gives rise to pain in sitting, but hopeless lameness. Rest, general alterative and tonic treatment will, in time, effect a cure. Pain in all cases must be relieved by the introduction of the cocain suppository and the ozonized pastil.

NEURALGIA OF THE STOMACH.—Gastralgia, a devitalized condition of the pneumogastric and vagus, and other peripheral branches of nerves that supply the stomach. The partial death may be in the nerves themselves, it may be reflected, it may be due to toxins of disease germs, poisons. Neuralgia never can

be mistaken for gastritis, for the pain is paroxysmal, radiating from the stomach to all parts of the thoracic cavity; invariably relieved by pressure; diminished during and after eating, but returns again.

Nausea, eructations, variable appetite; no special desire for fluids, and when not suffering from pain, apparently well.

A characteristic of gastric neuralgia is the mental phenomena, despondency, disgust of living or a morbid fear of death.

The pain of gastralgia, and the eradication of the pathological condition, may be completely antidoted by one or other of the following remedies:

Dissolve one dram of the jelly of violets in two ounces of comp. tincture of matricaria, then administer ten drops in three tablespoonfuls of water before meals. This affords instantaneous and in many cases permanent relief.

Another excellent prescription is sulphate of quinine twenty grains; prussiate of iron sixty grains; gelsemin (alkaloid) two grains. Mix, make into ten powders, administer one powder every three hours for a few days, until the pain is completely arrested, and a little longer for a cure.

The pain of gastralgia is promptly allayed by the taking of a papoid et cocain lozenge either before or after eating.

For temporary relief, if none of the above are convenient, add three drops of chloroform to one teaspoonful of glycerite of pepsin. Instant relief is experienced the moment it is swallowed.

If the neuralgia be due to fermentative changes in the contents of the stomach, one or two siegesbeckie tablets every four hours is a capital remedy.

If the attacks are accompanied by extreme weakness, pallor, vertigo, cold perspiration, tremor, exhaustion from either lack of food, combined with auto-intoxication from undigested food, frequent small meals, preceded by a kephalin granule, are excellent. Poisonous food is probably more productive of gastralgia than all other causes. Many individuals, by reason of their impecuniosity, partake of articles unfit for food—articles in which alkaloidal poisons are abundant, and these are responsible for much of the gastro-enteritis so prevalent.

Brewers' yeast is a remedy never to be overlooked in gastralgia. It has the property of assimilating microbes, or inglobing them. Singular to say, all cases improve under its use.

NEURALGIA OF THE HEART.—See Angina Pectoris.

NEURALGIA OF THE BREAST (*Mastodynia*).—Neuralgia of the breast, with extreme pain and tenderness, may be due to blows, contusions, the irritation of corsets, most commonly due to some irritation of the uterus, ovaries, or clitoris.

The removal of cause, tonics, coca, avena, kephalin, simabicidia, passiflora. Locally belladonna, concentrated ozone and menthol, jelly of violets. These remedies failing, look to the uterus; give aletris wine, alternated with nitroglycerin; comp. syr. partridge berry, alternate with cimicifuga and pulsatilla; use pastils of boroglycerid alternated with nymphæ odorata.

NEPHRALGIA.—Often due to gravel, or disease germs, like malaria; to drugs; to suppression of an eruption; in the left kidney to poisons of rheumatism; gout, cold, wet.

It is attended with most excruciating suffering; sharp lancinating pains, coming on suddenly, violent in intensity, relieved by pressure, never aggravated by it. If due to gravel, it may be continuous, beginning at the time it commenced to pass into the ureters, and continuing until it reached the bladder. The pain is paroxysmal in its character, not only experienced in the loins, but extends to the groin, thigh or abdomen, causing retraction of the testicle in the male, and irritation of ovary in the female. If the paroxysms are severe, they may be accompanied with nausea and vomiting; a small, wiry, feeble pulse; profuse perspiration; prostration, with a desire to pass urine, and an inability to do so. When concretion, if due to that, reaches the bladder, pain suddenly ceases: if due to other causes, it may continue till the cause is removed. Its location (relieved by pressure), character of pain being paroxysmal, with other symptoms of kidney irritation, are always important landmarks.

In the treatment, alcoholic vapor-bath; external warmth over kidneys; if stomach is so irritable as to cause everything to be rejected, apply mustard over it, and give a large dose of tincture of green root of gelsemium; if vomiting still persists, hypodermic injection of morphia, preceded by the inhalation of a few drops of chloroform. Then apply belladonna plaster over kidneys, and depend on quinine and gelsemium internally. In some cases aconite and belladonna answer well, with dry cups and lobelia fomentations. If due to the retrocession of an eruption, compound tincture of serpentaria or jaborandi; if due to rheumatism, alkalies, as nitrate of potassa and cream of tartar. Each case managed as to its cause.

Ocular Neuralgia is usually relieved at once by rubbing concentrated ozone over the forehead and temples, and dissolving one grain of the jelly of violets and dropping it into the eye—most reliable method.

The indiscriminate use of cocain and eucain is not to be commended in eye affections, as they give rise to impaired nutrition and are decidedly injurious. Even the pain of glaucoma and ophthalmia is alleviated by the violet jelly and concentrated ozone. The best internal remedy is simabicidia.

Otalgia, recurrent neuralgia of the ear, should be treated constitutionally in all cases. Simabicidia, gelsemium, passiflora. To relieve pain promptly dry heat, a hot hop-bag, bran-bag, hot salt, desirable methods. Mullein oil, a few drops. One grain of jelly of violets dissolved in a few drops of warm water and poured into the ear affords immediate relief. Of all local anodynes for earache, the jelly of violets is the best, for the instant it touches the membrana tympanum otalgia is relieved.

If it be clear that the toxin of the aspergillus is the cause of the recurrent neuralgia, the ear might be occasionally filled with the peroxide of hydrogen, which promptly kills this fungus. The application should be repeated to obtain a good result.

Pleurodynia, intercostal neuralgia, may be a complication of pleurisy or exist by itself, and is usually either of a rheumatic or uremic origin, and must be actively treated on antidotal lines.

Comp. conium pill relieves pain. Then select two remedies from the following group, and push with energy, ozonized, either glycerite of wintergreen and uric acid solvent; or colchicum wine and gelsemium; or matricaria and simabicidia. If uremia be prominent, matricaria, gelsemium and uric acid solvent with asclepsias.

solvent with asclepias.

These remedies stimulate, revivify every function of organic life, and must be fully known to be appreciated.

Locally, dry cups, then select either concentrated ozone and menthol; or mustard and albumen; or guaiacol plaster; or oil of wintergreen ointment.

Sciatica, being the longest nerve in the body, with a cellular sheath of considerable thickness. Very common in the uric acid diathesis, in all disorders of metabolism in which rheumatism and gout are present. The pain in the back radiating along the course of the nerve, well down to the popliteal, is usually most excruciating, especially on movement; demands impera-

tive relief. The compound conium pill must be given until the passiflora and gelsemium take hold. The remedies indicated in every case are the simabicidia, saxifraga, and uric acid solvent, to rid the blood of toxins, absorb effused lymph on the sheath of the nerve, cleanse its neurilemma. These are truly curative drugs, but slow in their action; consequently, the comp. conium pill must not be neglected, as it not only affords immediate relief, but soothes the jaded brain. Locally, acupuncture along the course of the nerve, followed with rubbing in jelly of violets, is excellent. Concentrated ozone, with menthol added, also efficacious. Guaiacol plaster along the course of the nerve fairly good; even oil of capsicum diluted with chloroform not to be despised.

NEURALGIA OF THE TESTES.—Generally caused by either the toxins of the gonococcus, rheumatism, gout, malaria. A legacy of congress with harlots, excessive sexual intercourse, abnormal methods, masturbation, or whether the sexual act is loose and varied.

For immediate relief of pain try conium pill, followed with gelsemium and passiflora with cocain suppositories, with jelly of violets over scrotum.

Simabicidia and matricaria always the remedies, according to the cause.

C. p. solution of spermin and passiflora are good for recruiting.

UTERINE NEURALGIA.—Becoming more common daily. Some rare cases may be traced to irritation, others to the gonococcus, another numerous class to repeated abortions, followed by intrauterine catarrh. The causes that produce it are extremely numerous. Independent of mechanical irritation, a most common cause is want of development. Modern education and civilization drain off the vital energies of the brain and nervous system, leaving the reproductive organs in a state of atony, defective nutrition, hence the modern woman at puberty makes an effort to perform an adult function with an infantile organ. The effect is imperfect and painful.

Microbes and other toxins, sexual incompatibility and other conditions give rise to it.

In the treatment the reproductive organs must be given an opportunity to catch up with the system in development, which involves rest, massage, electricity, protonuclein, c. p. solution of spermin, altogether a different treatment from that pursued by the modern gynecologist. The pain in all cases must be relieved with the boroglycerid pastil and suppository.

Remedies that favor uterine growth are comp. betin pill, cotton-root bark, thyroid extract.

Medical treatment with c. p. solution of spermin and kephalin, with that elegant, reliable uterine restorative wine of aletris farinosa, of great efficacy; so also pulsatilla, green root tincture gelsemium, passiflora are of benefit.

Locally the boroglycerid pastil and the cocain suppository stamp out the neuroses. Every remedy failing, massage and rest.

In all cases hygienic treatment is among the best of all curative means. Nutrition, exercise, healthful mental and moral surroundings are of the utmost importance. Young ladies must receive special attention with regard to these matters, and all undue drains upon their vital forces, as to close confinement in school, at music or art lessons, late hours, and the dissipation of society must be discontinued. Local treatment.

NEURASTHENIA.—Poverty of nerve force gives rise to the evolution of a striking pathogenic microbe, which admits of artificial culture. It can be easily isolated from the blood of every individual who suffers from any nervous malady, besides it is to be found on the tongue. In languor, debility, headache, neuralgia, epilepsy, spermatorrhea, impotency, suicidal mania, and in all forms of insanity, the blood literally swarms with the microbe. It is the presence of this microbe which renders suicide, spermatorrhea, impotency, endemic, and mental aberration contagious.

Men, on account of their great development of the sympathetic, are more obnoxious to the ingress of this microbe than females.

Contagious and infectious in the true sense of the term, close contact being necessary.

Like all other disease germs, this bacillus in its evolution and growth excretes toxins or ptomains. Four ptomains are found in all stages or degrees of nervous shock, from a simple headache up to tetanus; these are tetanin, tetanotoxin, spasmotoxin, and a toxalbumin.

These poisons are found in the blood and tissues of the insane, the paralytic, the epileptic, the choreic, puerperal convulsions, the tremulous.

The influence or effects of toxins is upon weakened parts; a devitalized patch of the brain, when they are present in the blood, gives rise to the nerve storm of epilepsy; a feeble cervical

sympathetic, choreic movements; general nerve depreciation, convulsions, etc.

A complete restoration of vitality (to secure immunity) can only be effected upon a most liberal diet and a persistent administration of ozonized thyroid extract and c. p. solution of spermin.

During a quasi-suspension of vital force, or narcosis, there is a complete suspension of microbic evolution and growth, and their ptomains are also neutralized or become inert. We see this illustrated when pint after pint of whisky is administered to a snake-bitten-stricken patient, until complete narcosis takes place, on awakening from which recovery is perfect; when the antitoxin lobelia or tobacco is poured in by every avenue in cases of tetanus, until the tetanin is neutralized, then the clonic spasm ceases; when œnantha crocata is persistently given to an epileptic, the nerve storm, or seizur, ceases; when the system becomes saturated with scutellarin and arsenic, all choreic movements are abolished; when narcotism is induced by opium in puerperal peritonitis, all symptoms disappear, human life is saved; when puerperal eclampsia takes place, from the toxalbumin generated from renal incapacity, for quieting the convulsive seizures (neutralizing the toxin) there are no remedies which give such perfect results as concentrated ozone and chloroform—the former by enemata, one dram to half-pint of decoction of linseed, to which when cold one ounce of peroxide of hydrogen is added; the latter by slight inhalations—the rapidly recurring fits are controlled, followed with large doses of ozonized extract of passiflora incarnata, a remedy of great value.

These facts inaugurate the beginning of medicine as an exact science.

The presence of this microbe in man strikes at the origin of life, the reproductive organs, saps his sexual vigor; causes the disappearance of spermatozoa in the prostatic secretion, and in their stead spermatic crystals appear, which are devoid of all vitalizing or fertilizing elements.

Annihilate this microbe with bactericides; languor, debility, neuralgia, sucidal mania, sexual callousness will disappear: even the same remedies in epilepsy, chorea, insanity, will tend to cause a marvelous improvement, and bring the number of such cases to a cipher.

The remedies to completely wipe out this microbe are prolonged vitalized massage, electricity, cerebrin, glycerite of kephalin, avena sativa, passiflora.

The diet should be rich in brain elements, phosphates, broiled animal food; boiled fish, eggs, poultry, game, abundance of rest. A highly ozonized, salubrious atmosphere; perfect freedom from care, worry, anxiety; daily bathing, gentle exercise.

SEXUAL NEURASTHENIA.—Impotence, a difficulty or impossibility to perform the act of copulation, a state which either implies poverty of nerve force or impairment of the sexual appetite, or disease, or malformation of genital organs, or derangement of the brain and spinal cord, by reason of which there is either an absence of sexual desire, or power of erection, or of ejaculating the semen into the vagina, or any pleasurable sensation in the act of copulation or emission of semen. Impotence relates to the act of intercourse and differs essentially from sterility or an ability to beget an offspring.

Without venereal desire or an absence of the sexual appetite, the act of coition would be rarely performed. The essential parts of sexual congress are the emission of semen, the experiencing of physical pleasure before, during, and for some time after its ejaculation. This sensation originates in the seat of sexual appetite in the base of brain, reflexly in the glans penis, extends to the adjacent parts, and is experienced in the spine, head and entire body.

Absence of the sexual appetite is acquired by struggle, worry, strain, nerve tire, brainwork; sexual indifference is well marked in users of tobacco, alcohol and opium habits; in such states the rendezvous of soul is withered, blighted, whittled down; the sexual appetite is extinguished by masturbation or perverted methods of congress. Venereal disease, balanitis, chancres on the glans penis, destroy its finer sensibility, depreciate vigor, virile power; masturbation weakens the power of erection; so does early excesses; so does gonorrhea, stricture, irritable and enlarged prostate; so does tightness or absence of the prepuce. The glans penis possesses the highest degree of sensibility—this faculty is paramount to all others.

Masturbation is the cause of spermatorrhea, the loss, the oozing away of the nervovital fluid, whether it be diurnal or nocturnal; disease of prostate; damaged, irritable, inflamed, enlarged, weakened cord and brain; then failure of procreative power. All this may be oblivious to the patient; semen passing in the urine unobserved, or at stool, or the prostatic secretion with spermatozoa may flow back into the bladder and be discharged during micturition and giving rise to impotence.

In our modern state of civilization our condition of mental

preoccupation operates adversely, and is most efficacious in producing impotency. There are numerous factors at work that impair or abolish sexual power, as plethora or obesity, emaciation; the latent germs of cancer, syphilis, tubercle, which engender local atrophy, or wasting of glands or organs; or the want of nerve influence to the testes, injuries or blows on the back of the head, and all the habits.

NERVOUS IMPOTENCY.—The sensory neuroses of the sexual apparatus may be confined to the testicle, spermatic cord; it very often is of a painful, dragging or stinging sensation in one or both groins, or there may be a stinging in the prostate urethra during and after ejaculation of semen.

On making an examination by the metallic sound the urethra is sensitive, especially its prostatic portion—in other cases quite the reverse, a diminished sensitiveness exists, almost amounting to anesthesia.

With such a state of hyperemia existing there is often an impossibility of consummating the normal act of coition, although this inability is frequently due to organic change, a malformation or defect.

Many causes are often present, nervous or psychical, to wipe out a lasting and powerful erection, chronic ailments, some drugs; unrecognized affections of the brain and cord; all have their effect; perhaps the most common is that form met with in young men addicted to masturbation, or who suffer from spermatorrhea.

Relative impotency, an inability to consummate the sexual act with certain individuals, while with others they succeed all right, a state of things which often exists among married men who have an aversion to their bed companion.

Neurasthenic individuals, men who have exhaustive brain-work, business cares, worry, not infrequently have erections which are too weak, too short in duration, evanescent—ejaculation too soon; vagina large, penis flaccid—emission follows; coitus incomplete—unsatisfactory.

The causes of this form of nervous impotency are to be found in a damaged brain and spinal cord, usually the product of unnatural sexual excesses; when the individual attempts normal coitus, he is unable to accomplish the act—a total failure.

Recognizing the fact that the mechanism of erection is essentially under the control of the cerebrospinal system, the treatment and cure of such, to be successful, must be by remedies that act directly upon the disordered parts.

Ozonized extract of passiflora incarnata in teaspoonful doses, thrice daily, is a nerve vitalizer and brain purifier. Quite indispensable in the correct treatment of a sexual neurosis—it does the work and its action is permanent. It seems to be the only drug that relieves every pain and inspires a man with perfect confidence. Usually I prescribe a kephalin granule; one at each meal to give the system more phosphates; in other cases ambrosia orientalis in liquid or tablet form.

SEXUAL NEUROSIS.—Among the highly civilized races of men we find an excessive development of the great sympathetic in both sexes, and as in this nerve the emotions, desires, affections, passions are localized—that branches ramify in great abundance in the prostate and neck of the uterus—both rich in sympathetic branches, supplied from the hypogastric plexus of the sympathetic, re-enforced by filaments from the sacral ganglia—so that any violent emotion, any depressing passion, any abnormal desire, by debasing affection enervates the uterus in women, and seminal vesicles and prostate in men.

The peripheral termination in the cervix and in the cortical layer of the prostate are kept in a constant state of chronic inflammatory excitement, and a reflected irritation to other nerves in the sexual area.

Every violation of divine law meets with prompt retribution —the perusal of dime novels are sexually depressing, give rise to involuntary emissions; masturbation is invariably followed by seminal leakages, diurnal and nocturnal losses—spermatorrhea with all its devitalizing effects.

Long addicted to masturbation, or continuous association with harlots, ultimately gives rise to impotency or an inability to consummate the normal act of coition.

This may be due to organic change, some morbid condition of the brain or spinal cord—the centre for the nerves that preside over creation in the lumbar portion of the cord, and if there be a decided breakdown, there may also be a failure of secretion of semen.

Young men who enter this arena are the victims of unnatural sexual excesses, coupled often with mental and physical exhaustion, shocks and blows on the back and head.

Inability to have a lasting and powerful erection is the termination of all sexual neuroses.

If there be either a leakage or a weeping, a moisture or an emission, visible or in the urine, it must be completely arrested. For this purpose salix nigra orally and by suppository and

bougie or oil of thuja suppository are two excellent remedies.

Diet, assimilation, bathing, massage, freedom from worry and care—every point well guarded, then remedial measures are in order to excite and maintain erections.

It is well known that there is nothing so vitalizing as the secretion from the brain of semen rich in spermatozoa.

This is the first point to be arrived at—nutrition, food, highly phosphatized, and in abundance. Give matricaria comp. before meals, and while eating, kephalin or the c. p. solution of spermin, occasionally protonuclein or avena sativa. A course of brain-building remedies is indispensable in such dilapidated cases.

Kephalin is the most highly vitalized remedy in the materia medica.

If the case progresses favorably under the above, then stimulate erections. Most physicians just here rush for spinal stimulants, such as nux vomica or strychnine, cantharides, rhus tox and electricity. This is a mistake. Better try the gradual administration of ambrosia orientalis in small doses for a few weeks. If the tincture fails add to it the suppository and bougie; if the remedy fails altogether, then give muira puama, perhaps the only remedy of definite value as a sexual tonic, differs from all other remedies in directly strengthening the erectile power. In this respect it is away ahead of all other remedies. It has a peculiar action on the brain cells, on the sympathetic, and when it does act it affords permanent relief.

A NEUROSIS OF THE SEXUAL GLANDS.—This is undoubtedly one of the most common complaints which are incidental to the reproductive organs of the male, for with every sexual excitement, either before a partial or complete erection has taken place, or even an ejaculation of semen, a clear, transparent, viscid drop, like the white of an egg, oozes from the meatus. This drop represents the secretion of the accessory glands of the urinary and genital tract, and consists of the secretion from all the glands. The prostate being the largest, the mass of molecules of that one drop consists of prostatic secretion.

The object of this secretion is to lubricate the urethra and thus facilitate the discharge of semen, which is a fluid of greater density than urine.

If this clear, viscid fluid be secreted in greater amounts, at all times, and appears without sexual excitement as an oozing, it is prostatorrhea or catarrh of the prostate. Very variable in degree and intensity from acute, subacute, chronic forms.

Occurring in young men, commonly found as a sequel to gonorrhea, when yellowish drop gradually becomes whitish and flocculent and finally colorless, watery and slightly viscid. The gonorrhea has disappeared, but a moisture, an oozing, a leakage remains. This moisture is seen at the orifice of the urethra, if slight, by parting the lips; if greater in degree a general leakage, often copious and profuse, wetting the clothing. Aside from gonorrhea, masturbation is another extremely common cause. Congress with harlots may be enumerated as productive of it.

Married men acquire prostatic catarrh from sexual excesses, and abnormal methods of intercourse, and incompatibility and relaxed vaginas.

The uric acid diathesis, acid urine passing over the prostate urethra, vesical calculus, rectal irritation. The moisture, the oozing or leakage is greatest if there has been inflammation, and that complicated with cystitis and epididymitis; whereas, in chronic prostatitis, with thickening and enlargement of the lobes, or hypertrophy of the whole gland, this hypersecretion is no longer clear and transparent, but turbid from cell elements.

The diagnosis of all these cases must never rest on their history, but upon a microscopical examination of the secretion. If the moisture or leakage contain spermatozoa, then it is spermatorrhea; if it contains no spermatozoa, it is most likely prostatic catarrh. An examination by the sound shows extreme tenderness in the prostate urethra in all cases due to inflammation.

Examination of the rectum by the finger reveals a want of symmetry of the lobes and irregularity of the body.

The patient's urine shows phosphaturia.

The prognosis of all cases of prostatorrhea is favorable, but as it is a genitourinary neurosis, the treatment is often quite tedious.

There is, however, a general line to follow in the treatment of all cases; the patient should be placed upon a general alterative and tonic course, administering comp. saxifraga and matricaria; the best of diet; morning and evening, hip baths; bowels kept regular either by fruit or kola-nut lozenge. When resting the recumbent posture is best. Sexual congress should be completely suspended.

The special treatment which we have found of great efficacy embraces the abrogation for the time being of sexual desire and

erections, which is best effected by administering tincture of the green root of gelsemium in doses sufficient and in frequency to completely control all erections. The use of bromide of potassium to this class of patients is most disastrous, and should never be given.

The internal administration of the ozonized black willow bark extract is our best remedy, provided it be faithfully given. A suppository and bougie of the glucoside of the black willow often are of much service; nay, are never-failing in checking the leakages and removing the latent irritation. Their administration requires tact, discretion and skill; where they are properly handled there are few failures.

Just as soon as you are satisfied that there be no moisture, no leakage, no drop, no gluing of the lips of the meatus, the remedies might be gradually changed to thyroid extract and c. p. solution of spermin.

NEURASTHENIA, THE MICROBE.—This is an evolution due to a poverty of nerve force—a weakness and exhaustion of the nervous system. Man's reserve vital force is exhausted and there is either derangement of the entire system or some special organ, which influences the mental function to a great extent; often difficult to draw the line between actual insanity and its delusions and nervous prostration with its eccentricities and irritability.

A poverty of nerve force gives rise to an evolution of this microbe, whose toxin implicates every weakened organ of the body; this may be the brain, spinal cord, genitourinary organs, stomach, intestines, etc.; a special neurosis.

In all its degrees neurasthenia, a microbic malady, is contagious and infectious, from simple mental feebleness to the most violent form of raving madness.

A healthy organism responds to the calls made upon it; this is not the case with the neurastheniac.

Among the many exciting causes may be shocks, concussions, exposure to the sun's rays, but the brain may be weakened by care, worry, struggle, excessive mental work, business strain, losses, grief, fright, the toxins of disease germs, and much enfeebled by a solitary or monotonous mode of life; exhausted, starved from adulterated food, a want of phosphates; all reflex irritation, most prominently disease of the uterus and ovaries in women and the prostate gland in men.

The microbe of neurasthenia respects neither age nor sex; is the great factor in the causation of the uric acid diathesis, every case being identified with that condition.

Neurasthenia frequently originates in diseases of the reproductive organs of both sexes, acting reflexly. The influence of a pathological condition of the sexual organs on the brain is remarkable, apparently insignificant, but gives rise to serious disturbance of the general health and morbid impulses in the central nervous system; such anomalies should be rectified promptly.

Neurasthenia is the precursor of many mental disorders, one of the principal being hypochondria, which has always a sexual basis; and melancholia, due to prolonged mental depression and actual laxity of the brain cells.

It is caused in the neurasthenic by exhausting disease, pernicious habits,. as masturbation; certain employments; emotional influences, as grief and anxiety. Of diseases, those of the stomach, liver, lungs, kidneys, and above all those of the genital organs.

Melancholia is the termination of neurasthenia, hypochondria—a state in which they lose all interest in life and business and cannot reason intelligently; they feel bad; have morbid feelings; are troubled with insomnia; lose strength, flesh, appetite; suffer from constipation; have occasional attacks of severe neuralgia; dull cerebellar and post-cervical pain; rapid, small pulse; sluggish capilary circulation, with mental instability.

To overcome the extreme poverty of nerve, to supply the brain with its own pabulum, cause a cohesion of its cells, we have a most valuable remedy in kephalin, either in liquid form or granules; besides it is an excellent remedy in all conditions of debility. As a brain builder its action is incomparable in general nervous weakness; efficacious in neuralgia, headache, sleeplessness; in anemia, influenza, indigestion, anorexia; in rheumatism and gout. Its action as a tonic is most invigorating, and as a general pick-me-up to the worn-out sensualist and the exhausted inhabitants of our large cities nothing could be more efficacious. We strongly endorse its use in all cases of neurasthenia.

Another remedy of great value is spermin, $C_2 H_5 N$. A chemically pure solution of a sterilized, vitalized extract, or alkaloid, a basic substance obtained from the fresh testicle juice of the bull, brain, bone marrow and the glandular fabric of the reproductive organs, prepared under the most careful antiseptic precautions.

The indications for the use of the remedy are when the administration of the most powerful vitalizing tonic and nerve

stimulant is required; when a brain fertilizer and reconstructive are demanded, this remedy is of decided efficacy.

Properties and Uses.—Its use has a decided influence on the health, activity and longevity of the blood-corpuscles; heightens all the vital functions, physical as well as mental; promotes a higher type of manhood; blends with and is intimately connected with the origin, existence and prolongation of life; invaluable and never failing in hopeless impotency, lethargy and deficient erectile power.

Dose: For all ordinary cases, one teaspoonful every four hours is sufficient; for extraordinary cases two teaspoonfuls as often.

This c. p. solution has an electric action upon the nutrition of the brain, so it is indicated in every case of neurasthenia whenever the nerves suffer from the want of nutrition, and fail in their activity because it accelerates metabolism, favors the assimilation and increase of vitality. Very striking results are obtained from it in all cases of great exhaustion of the nervous system, especially in impotency, phosphaturia and ataxia.

In functional disturbance of spinal nerves, as in all neuralgias, impairment due to anemia, it is the remedy indicated.

The occasional exhibition of avena sativa (Scotch oats) ozonized tincture; we have an excellent brain builder and nerve strengthener. One of the best of all known remedies to create a higher type of manhood, with a high grade of vital force.

As a tonic in neurasthenia matricaria compound is at the head of the list. It is well to administer it occasionally, as it markedly increases assimilation, and gives the individual a keener relish for food, upon or from which all true vigor comes.

NEUROSES.—The etiology of all forms of neuroses generally depends upon a disturbance of nutrition, either of the brain or some special nerve, which gives rise to some abnormal, reflex excitability, associated with anemia and a feeble constitution.

Persons in ordinary health may acquire, by various causes, an exalted reflex excitability which disposes to neuroses of the genito-urinary organs, especially if they weaken their nervous and physical system by overwork, cares and vicissitudes of life. Immoral reading may excite a neurosis of the urinary organs. Shocks to the sympathetic, as fright, grief, not infrequently give rise to disturbance of both the urinary and sexual functions. Long-continued excitement, loss of property, struggle,

often give rise to the most varied nervous phenomena. Worry often gives rise to frequent micturition, polyuria, even slight glycosuria, and sexual impotence.

A very large contingent of the general widespread nervousness is brought about by irritation of the urethra, prostate, bladder and rectum. These four organs are in close alliance and sympathy; any irritation in either spreads with alacrity to the ejaculatory ducts, reflexly to the brain and great sympathetic, enervates and irritates the cortical layers. The peripheral termination of the entire genito-urinary plexus is kept in a state of constant tension.

The urine in neuroses is excessive polyuria, pale straw-color, clear and of a low specific gravity; sugar is not infrequently found. This is common in all neurotic cases who suffer from chronic brain and spinal-cord lesions.

In neuroses we have found the following formula most efficacious in all cases: Glycerite of kephalin, tincture passiflora incarnata, of each four ounces. Dose, half a teaspoonful thrice daily, with all the good diet, bathing, massage and electricity procurable.

For neurosis of the organs of generation, with complete paralysis, impotence. In addition to the kephalin and passiflora, muira puama, in from five- to ten-drop doses, thrice daily, is a most effectual remedy.

An eminent authority says: "Nervous prostration, cerebral exhaustion, poverty of nerve force, is one of the all-common maladies of the present age. What can be done for it? The starting point of all treatment is rest; then bathing and massage, morning and night, with regular carriage exercise, substantial meals, with an avoidance of alcoholic drinks. The most valuable remedy that is to be found for the re-establishment of brain nutrition is the kephalin granules. Nothing better can be found.

"The increasing tendency to nervous diseases is due to the overestimation of the young; it permeates our educational system, diet, recitations. Overstraining and stimulation of the mental and nervous organism of the young create a nervous temperament in later life.

"A combination of these elements produces defective nutrition of the brain, which can only be effectually overcome by kephalin."

NERVOUS DISEASES.—A most important class of diseases, not always easy to diagnose, and not always well understood. There are two great groups of nervous diseases:

1. Those known to be due to injuries or disease of the nerves or nervous tissues.

2. Functional diseases, in which no morbid lesions can be demonstrated.

The former includes the different forms of paralysis; the latter such diseases as chorea, hysteria, neuralgia, insanity, delirium tremens, etc.

Symptoms.—More or less paroxysmal pain. Certain tender spots on pressure along the course of the nerve. Neuralgic pains have a tendency to shift from one place to another.

Neuralgias of special nerves have distinctive names, thus: Tic douloureux (fifth cranial nerve), sciatica (sciatic nerve), gastralgia (the nerves of the stomach), and so on.

Treatment.—Removal of the cause, if it be known. Light, nutritious diet.

To relieve pain, internal and external remedies may be tried.

Internally.—Quinine, passiflora, simabicidia, c. p. solution of spermin and ammonia.

Externally.—Counter-irritation, belladonna, aconite, chloroform liniments, concentrated ozone, jelly of violets.

NERVOUS TEMPERAMENT, in which the nervous system is developed at the expense of the physical. A common condition.

This is a nervous age. Rapid development has made the nervous system highly susceptible and unstable. The strain and pressure of modern life, acting upon this increasing sensibility, causes so much suffering, men instinctively look around for artificial stimulants to benumb it. Alcohol, opium, cocain, coffee, tea, tobacco, sauces, condiments, and large quantities of stimulating food are used to relieve the very conditions for which they are largely responsible. All artificial stimulants and unnecessary food, in health, create excitement, uneasiness, and extra work in the system. If the individual feels better after indulging in stimulants, it is either due to temporary paralysis of the nerves of sensation, which, like sentinels asleep on duty, fail to report to the brain the damage done by the enemy, or else there is a reckless expenditure of vitality, which the individual can ill afford.

The habitual and excessive use of artificial stimulants is liable to cause disease of the vasomotor system of nerves, chronic congestion of the brain and viscera generally, followed by inflammatory or degenerative structural changes in the blood-vessels and other organs, often terminating in apoplexy.

All nervous energy generated in excess of that needed for the performance of function should be utilized in work. It should not be stupefied by narcotics, wasted in high and reckless living, or turned in upon the brain to ravage the system with worry, according to the individual temperament. The unrest, the acute and painful consciousness of which neurotic persons complain, may be forgotten in light, suitable, and varied work. Habitual work has specialized all our organs, and, temperately performed, it will give stability to the higher nerve centres. The neurotic person's salvation lies in cultivating his individuality by thinking and doing, and in the strictest observance of temperance and moderation. If he must have artificial help, give him some mild nervine, such as kephalin or avena sativa, constructive agents by which we increase the tone of the nervous system.

NEVUS.—An anastomosis of small blood-vessels, capillaries or veins, which become permanently dilated and their contents communicate freely with each other.

They are usually congenital, appearing either at birth or puberty; sometimes the result of a contusion, a bruise or ecchymosis which never disappeared. Most common on the head, face, neck and chest; located either in upper layers of the skin or beneath it; they are also met with on the mucous membrane of the cheek, gums and under the tongue; more rarely on the scalp, lips, body, breast, intestine, liver.

They are termed port-wine stains, or mother's marks; their color and shape give rise to fancied resemblance to things in nature, as strawberries, raspberries; very variable in thickness. some merely superficial, others thicker, with a well-defined margin; some are influenced by excitement, crying, laughing, coughing, straining.

The large percentage of cases are congenital; in some rare cases the atrophy and disappear.

With regard to treatment, very many methods are resorted to with but poor success, as leaving a scar either on the exposed or covered parts; nevertheless they should in all cases be removed.

Every surgeon has his favorite method; if superficial, they paint them with liquid chloride of chromium; if deep, excision; in other cases, ligation and subcutaneous injection, with coagulating fluids, like carbolic acid and perchloride of iron, a dangerous method, giving us a clot in the circulation often

terminating in apoplexy and paralysis; coagulation by needles and electricity no better. Even vaccination with croton oil, ethylate of sodium and a seton are unsatisfactory.

Ozonized oil of thuja has come to the front as a remarkable remedy to cause all nevi to shrivel up, atrophy and disappear. If the dilated vessels are superficial, it may be applied on lint, simply saturating it every three hours and binding it on; if deep-seated, it can be injected into the mass.

NEW DISEASES.—There are a number of ills incident to the use of new appliances, and these have already become so clearly recognized that they are a matter of course in medical practice. Indeed, the victims have given names to them which have been adopted in scientific phraseology. Bicycle back is a familiar ill, and comes of the doubling-up position about which so much has been written and said. It is akin to the disease known as miner's back, which comes upon men who work in mines and are in a stooped position for many hours at a time. Telephone ear is a not uncommon complaint. It is not an organic disease, but purely a nervous condition, and arises from nervous strain. Almost without exception, the trouble ceases with the discontinuance of the use of the telephone. Telegrapher's and typewriter's cramp has many victims. This difficulty is not easily got over, as in many instances the muscles become almost or altogether useless, and the patient is unable to control them. It is curable only after a course of scientific treatment. One of the latest complaints is the trolley foot. Of all these new diseases, those due to cycling are the most disastrous. Every cyclist has an inherited weakness in their physical and mental constitution; it is therefore for the interests of humanity that a check be placed upon all the participants in anything that would degenerate vitality, breed disease, or work out their own destruction.

Every scientific physician can attest that all cyclists have urethral discharges at all times of prostatic and seminal secretions, as a result of this mode of exercise; that this leakage drains away the nervo-vital fluid, atrophies and degenerates the penis, spermatic cord, testes, prostate, spinal cord and brain; that it induces profound impotency, as the weeping from the penis being continuous, is exhaustive, devoid of spermatozoa, infertile.

As a cure which can be effected, if no organic change has occurred, the mode of exercise which induced those urethral

discharges must be forever discarded. Comp. matricaria should be given before meals to promote an appetite, aid nutrition. C. p. solution of spermin after meals; the ozonized extract of black willow bark internally, and the salix nigra suppository will promptly check the discharge from the ever-weeping penis.

For the defective, chaotic nervous system, under which may be classed defective brain organization, impotency, spinal irritation, loss of sensation in feet, numbness in the penis and perineum, there must be rest, massage, together with matricaria and large doses of the ozonized extract of passiflora; when the threatened symptoms of paresis are overcome, try kephalin and avena, prolonged course; occasionally ozonized thyroid extract.

Vascular and degenerative changes in the spinal cord and its membranes, so great in numerous instances as to destroy the embryonic cells. In the early stages ozonized extract passiflora incarnata and green root tincture gelsemium, large doses and frequent. Locally to the lumbar portion of the spinal cord; first anoint a surface with olive oil equal to nine inches transversely and five inches longitudinally, then rub in as much concentrated ozone as can possibly be absorbed. Repeat this every evening before retiring, on any spot in which inflammation can be detected. Later on protonuclein and c. p. solution of spermin.

Difficulty in the act of micturition. Absolute suspension of the exercise, large doses of the green root tincture gelsemium, followed by a course of Virginia stone crop to brace up the sphincter.

All cyclists have albumin in their urine, for which protonuclein and matricaria are excellent; when arrested add ozonized passiflora to the other remedies.

Cardiac failure. Probably the prevailing malady. The strain thrown upon the heart gives rise to dilatation of the left ventricle, which if the exercise be persisted in becomes permanent, irreparable; then follows a want of nutrition and failure. The destructive exercise must be forever discarded. Comp. matricaria ozonized the best tonic; to feed the weakened heart-muscle, give three grains of creatinin isolated from the white meat of quail, thrice daily; occasionally protonuclein or ozonized thyroid extract.

Give passiflora and gelsemium for difficult breathing. Any edema, strophanthus.

Increased all lung maladies; augmented their mortality,

aggravated, intensified, and complicated all respiratory affections; been extremely productive of emphysema, a dilatation of the air cells, which no remedy can either ameliorate or cure but euphorbia pilulifera. The reabsorption of human sweat, which possesses intense toxicity, spends its virulence upon the lungs, gives rise to pneumonia.

Auto-intoxication. The character of the exercise dissipates all the reserve force of the individual; incidental strain is excessive; the nerve prostration and excitability intense; waste of all the structures extreme; toxical products are not eliminated, hence, auto-intoxication; the toxicity being visible in the headache, prostration, fever, general enervation. Baths, massage, unlock the secretions; administer very large doses of ozonized extract of passiflora incarnata, periodate aurum.

Women cyclists have analogous conditions, add to which a rigid, leathery perineum, a great barrier to easy parturition. Add to all, cycling is productive of gross immorality.

NIPPLE.—The mammilla or nipple of the breast may be the seat of numerous morbid processes. Its peculiar anatomical character renders it liable to become the seat of disease germs, so that we frequently meet with the germs of eczema, lepra, lichen, psoriasis, the colonies forming crusts, scabs, and the like, irritated or aggravated by corset bones. During lactation, especially at the commencement, nipple is very apt to become tender, from mother permitting it to lie in child's mouth. Young or inexperienced mothers are not aware of the fact that the child should be nursed at regular intervals of two hours apart; that the child should empty breast perfectly, no milk left in it; because if there is, it will irritate the gland, dry up the secretion, so that the mother will become a poor or scanty nurse. When nipple is removed from the child's mouth it should be well dried, and care taken that no article of dress irritates it. Nursing mothers should wear flannel summer and winter, so that the breast be always covered with this vitalizing covering, so arranged as to permit breast to be easily uncovered. The practice of bathing the nipple the last two months of pregnancy, in order to harden it and prepare it for work, with port wine and bark, brandy, or astringents, is not to be recommended among our ladies, who are highly civilized, whose nervous systems are keen, liable to impressions. When we look at the intimate connection of the nerves of the nipple and the uterus, such practice is not likely to be followed by good results.

NOSE.—The mouth is not more distinctly the gateway to the alimentary system than the nose is to the respiratory, nor is it more carefully designed for preparing food to enter the stomach, than is the nose for preparing air to enter the lungs.

The nose has three highly necessary functions related to breathing, and for which it is delicately adapted, besides those of an opening for air and a detective of bad air, viz., to warm, to moisten, and to filter air which it admits; and that neither of these functions can be performed by the mouth. However cold or warm the atmospheric temperature, the air is brought almost, if not quite, to the temperature of the blood in passing through the nose alone, and even before reaching the pharynx, or cavity back of the nose; that however dry the external air may be, it is completely saturated with moisture by passing through the nose; that instead of the moisture of the breath being supplied by and carried from the pulmonary tissues, it is carried to them from the nose, and may be deposited as a dew upon the bronchial surfaces; that gaseous exchanges take place in the nose, between the gases of the blood and those of the air, just as in the lungs; that nearly one-fiftieth of the exhaled carbonic acid is given off by the nasal mucous membrane, even when expiration is not performed through the nose.

It is evident that if air of a low temperature be brought in contact with the lower respiratory passages, inflammatory processes would be likely to be induced; and when at the same time the air is dry, if not duly moistened by being inhaled through the nose, this tendency would be greatly increased, and the coincidence must be the most efficient occasion of consumption, pneumonia, bronchitis, etc. Drying out thus the moisture of the air-passages provokes an exudation of the albuminous part of the blood, and so provides the best possible culture fluid for the bacillus tuberculosis, the pneumonia, typhoid, or other health-destroying germs to lodge and propagate.

In the mouth there is no provision for supplying sufficient moisture. Deprived of its normal watery constituents, the normal mucus of the bronchi becomes thick and a source of irritation.

By the abattis of hairs at its entrance, and by its narrow and tortuous mucous passages, the nose protects the parts below not only from the irritating qualities of particles of dust and smoke, but from the deadly invasion of microbes. With all parts of the current of inspired air coming in immediate con-

tact with the nasal mucous membrane, it must follow that vast numbers of germs will adhere to this membrane.

On the one hand is the narrow entrance, through which the air enters with all its invading hosts. On the other hand, nature has provided for the defence of this grand point of attack a tortuous defile, which the current of air cannot pass through without hugging its sides and its warm and moist lining. In this lining are ever-watchful defenders, congregated to devour the army of invading germs. Here, then, is continuously waged one of the great battles of life.

From what has been said the following conclusions can be drawn:

1. The nose should be kept clean.

2. All obstructions to nasal respiration should be removed. Especially should the mouth be kept firmly closed on emerging into the cold air; and while it should always be used as little as may be convenient for breathing, let such use be carefully avoided in the presence of foul, smoky, foggy, dusty, or extra dry and cold air.

It is estimated that in good healthy sections of our country, with abundant ozone areas, each inhabitant, with an ordinary breathing capacity, inhales into the nose every hour 150 micro-organisms, whereas the denizens of all our large cities, with no ozone, inhale 1,500 per hour.

The fate of those germs is of great importance, especially when we remember that expired air is practically free from all germs, clearly showing that they never reach the air-cells in the pulmonary tissue, but are destroyed in the nasal fossæ.

In the act of inspiration the air, containing the 1,500 germs which pass into the nasal cavity every hour and are arrested there, is freed from all microbes before it enters tht trachea.

The interior of a nasal cavity is perfectly aseptic, and possesses a potential bactericidal action—the vestibules of the nares, the vibrissæ lining them, crypts and crusts are swarming with bacteria.

The different structures of the nose not only arrest the ingress, but annihilate the germs: the vibrissæ act as a filter for the microbes, which penetrate the cavity before they meet their fate in the moist meshes of the hair which fringe the vestibules, and are subsequently ejected by the action of the ciliated epithelium; even the nasal mucus itself exerts a germicidal action on all pathogenic microbes.

The nasal cavity and its secretion possess the important

property of an inhibitory action on the growth of all microbes in the nose—even eliminating and killing many.

In a healthy nose all microbes are thus arrested, many destroyed before they reach the nasopharynx; a majority stopped by the vibrissæ at the entrance, and those that do penetrate the mucous membrane are rapidly eliminated. The nasal secretion is an unsuitable soil for the growth of all organisms, an important factor in preventing their growth and multiplication. The removal of the intruding germs from the Schneiderian membrane is due to the action of the ciliated epithelium, assisted by the trickling of mucus and lachrymal secretion. Phagocytosis aids to some extent.

A healthy nasal cavity is thus prophylactic against the entrance or ingress of all contagious and infectious diseases. Such an organ should be nursed. To keep it in a still more healthy condition, increase its germicidal power, a tepid saturated solution of ozonized boroglycerid should be used as a wash, douche and gargle morning and night.

To mouth breathers, into whose lungs 1,500 microbes hourly enter, subjects who suffer from germ-growth, multiplication and excretion of ptomains, as is seen in the general lassitude and debility, try the ozonized boroglycerid in tepid solution as a mouth-wash.

NUCLEIN.—Protonuclein, the active principle of life, chemically a phosphorized proteid, the principle of the defensive proteids of the organism.

It is extracted from the active glands of the sheep, from plants, yeast, and vegetable life generally.

It is indicated whenever we are desirous of stimulating nutrition—whenever we desire to bring into being successive broods of young cells or increase the number of leukocytes in the blood stream, augmenting their functional activity, and so stimulate cellular action to resist morbid changes produced by disease germs.

It is upon the presence or absence of nuclein that the vitality and growth of all animal and vegetable life depends.

Possessing all these qualities in a pre-eminent degree, it is a great tissue builder, of intrinsic value in disorganized states of the blood, of great efficacy where the toxins of disease-germs of tuberculosis, pneumonia, bronchitis, dysenterry, cholera, typhoid fever, laryngitis, diphtheria, sap the very essence of life. It has a potent action in rebuilding the wavering, tottering body when it needs support.

No matter what the malady may be or what plan or course of treatment may be pursued, add protonuclein to the bill in whatever form is most eligible.

It is usually administered either in powder, tablet, suppository, or in solution hypodermically.

The great value of protonuclein, in suppository form, has been thoroughly demonstrated in stimulating the germinal spot of the ovum in sterility; in causing the growth of broods of spermatozoa in impotency; it is the essential of life, nutrition, reproduction. In disease, its action is both curative and prophylactic in diphtheria, typhoid fever, pneumonia, tuberculosis, malaria, anemia.

The protonuclein suppositories used by individuals in feeble health keep the blood-corpuscles and tissue cells in good fighting shape and exterminate any bacilli that may dare to enter.

NUTMEG.—Many familiar culinary substances have been found to have valuable medicinal properties; the nutmeg, so far as we are aware, has not been among the number. Its turn has now come, however, for it is efficacious in the treatment of summer diarrhea, many cases yielding readily to doses of half a dram administered in milk. Insomnia is said to be effectually relieved by it. In delirium tremens it can be employed with safety and benefit, when any other sedative would be dangerous. For itching and irritable piles an ointment of two drams of powdered nutmeg, one dram of tannic acid, and one ounce of ozone ointment is an excellent application. Powdered nutmeg may be administered in doses of from two to ten grains for children, and from ten grains to two drams for adults. Larger doses have produced profound coma, lasting for hours.

NYMPHOMANIA.—Constant and distressing desire for sexual intercourse, with an erectile condition of the clitoris, may arise from disease of the brain, spinal cord, inflammation of clitoris, from masturbation, or excessive venery, sedentary habits or occupations, bicycle exercise, and, above all, by the vascular excitement that is produced by our abominable, sensually exciting literature.

Treatment.—Removal of cause, plenty of exercise, or hard work; daily shower-bath, well-regulated bowels, sleep on straw or hair mattress, light covering; cold-water hip-baths, and vaginal injections of cold water, except during menstruation;

large doses of green root tincture of gelsemium and passiflora at bedtime, or camphor, belladonna, and conium, to cut off sexual desire; alteratives and tonics administered persistently; a strict avoidance of all light literature; a pure, moral atmosphere; same treatment as for masturbation in male. The amputation or partial destruction of the organ with caustic potassa is of doubtful benefit.

In cases of inflammation, rest, open bowels freely, hot poultices, and general treatment for fever.

NYMPHÆ ODORATA.—Various preparations of the white pond lily are in use, all possessing tonic and vitalizing properties to the generative organs of the female. A glucoside from the root is unquestionably the best, and applied directly to the parts, most efficacious, in the form of a pastil.

They are extremely efficacious in all relaxed, debilitated, or devitalized states, morbid or callous states of the vagina. This preparations excels all uterine tonics in this, that it stimulates the lumbar portion of the spinal cord, which stimulus is imparted to the ovaries, broad ligaments, and uterus, causing a general contraction or drawing up of the organs if displaced. Therefore, they are of efficacy in all loose, relaxed states of vagina, falling of the uterus, leukorrhea, catarrh, ulceration, etc. Never failing when the complex generative system of the female loses its tone, vigor, vivacity—where callousness has suspended enjoyment; where the sexual act is inoperative, where the vagina needs the aid of a great vitalizer and contractor. In addition to its great power over the broad ligaments and ovaries, in this form it is an excellent germicide, and very valuable in all cases of gonorrhea, which are passed by so lightly. The gonococcus in the vagina is always dangerous. It does not localize itself in the urethra, but is liable to irritate the uterus and set up metritis or endometritis, giving rise to grave changes in the reproductive mechanism, fraught with danger.

The washing out of the vagina thrice daily with a tepid solution of boroglycerid, followed by the introduction of a white pond lily pastil, very soon clears the vagina of this disease germ. Besides, through the vagina a most decided impression can be made on the uterus, bladder, ovaries and adjacent parts, as absorption of the drug is rapid through its mucous membrane.

OBSTETRIC CONES.—These "cones" are prepared from the finest butter of coca, boroglycerid, hydrochlorate of cocain, and hydrogen peroxide.

Their use is indicated in every case of parturition.

Simultaneously with the first pain one should be inserted as far up the vagina as the finger can push it, and at the same time one up the rectum. These speedily melt, thoroughly lubricate the parts, and produce anesthesia of the uterine plexus of the nerves, rendering the parts soft, moist, easily dilated.

In a short time two more should be inserted, and thus repeated every half hour, in accordance with the judgment of the accoucheur. At the same time the abdomen over the uterus and lumbar portion of the back should be rubbed with a mixture of concentrated ozone and chloroform. By these procedures the pangs of parturition are either totally obliterated or reduced to a cipher, the vagina rendered aseptic.

The use of these cones in all cases of parturition at full time, or miscarriage, is far-reaching. When thus used there is no tedious labor, no inertia of the uterus, no hour-glass contraction, no retained placenta, no post-uterine hemorrhage, no metria, no puerperal convulsions, a speedy convalescence.

Those cones have numerous other valuable properties; they cure the three forms of dysmenorrhea, specific inflammations, induration of the neck, leukorrhea, pruritus, pile, irritable and ulcerated rectum, ascarides.

The chief physician of one of our largest midwifery hospitals says that the obstetric cones are the greatest desideratum of the age; of the greatest possible value before and after delivery; invaluable for procuring painless labor, and for an antiseptic protection for both vagina and uterus they are unexcelled. We have used them in several thousand cases of labor, and there has never been a single case of puerperal fever, or peritonitis, since we commenced to use them.

The use of these cones clearly shows that puerperal fever is a preventable malady.

The use of these obstetric cones in all cases of parturition has made it possible for the child to pass beneath the pelvic arch, through which every candidate for immortality has to pass, without causing much pain to the mother. Science has thus completely antagonized the idea of pain.

OBSTRUCTION OF THE BOWELS.—Mechanical impediment to the evacuation of the bowels. The ordinary symp-

toms are distention of the abdomen, colicky pains, nausea, vomiting sometimes of mucous, greenish or bloody matter, hiccough, tympanitis, feeble pulse, haggard looks, tetanus.

The obstruction may be due to strangulated hernia, or to an accumulation of impacted feces; to solid concentrations of chalk, magnesia, indigestible matter; to spasmodic or permanent stricture; to inflammatory adhesions of bowel to walls of abdomen; or by adhesion of bowel, or by external violence or otherwise; to intussusception or invagination of the bowels, the introduction of one portion within the other, most common in loose, flabby persons.

Remedies.—Very large doses of sweet-oil and opium, copious warm-water injections, lobelia and hyoscyamus. Peroxide of hydrogen in infusion of flaxseed is one of our best remedies, as it evolves large volumes of ozone gas in the bowels which relieves the obstruction; concentrated ozone over the abdomen. Prolonged anesthesia, massage.

ODONTALGIA.—A pain in a tooth depends upon a variety of causes, such as the toxins of disease germs acting disastrously on the nerve; decay of the dentin carries its microbe; exposure of the nerve to the atmosphere and extraneous matter. Cleansing cavity thoroughly, inserting a piece of cotton saturated with jelly of violets, or if not sufficient destroy the nerve completely with arsenious acid or chloride of zinc.

ODORS.—The liver being the organ to work off all toxins, when active few odors from the body are perceptible, but let there be inertia of that gland from any cause, the sebaceous glands of the tonsils, mouth, nose and feet are called upon to eliminate, and in this process there is a fetor, a germinal evolution.

In dealing with bacteria we must never lose sight of the idea that they only grow when vitality is low. Every debilitated individual has a bad taste in the mouth and a foul breath, regardless of how clean he keeps the mouth. The mouth is simply a breeding ground for all manner of germs; a constant stream of those elements of disease is carried into the stomach, infecting the alimentary canal, irritating the liver, entering the blood. The most common cause of bad breath is the sluggish liver and decomposition of the coating of the tongue.

To rectify the sluggish liver take a selection from remedies

that energize that gland, such as periodate aurum, chionanthus virg., comp. matricaria; mouth-wash of boroglycerid.

Odors from the feet, with sweating, exhibit a state of remarkable toxicity, which, until the liver trouble is eradicated, is best got rid of by painting the soles of the feet with formalin, first bathing with soap and water, drying off, adding twenty drops of formalin to one tablespoonful of water, and brushing it on lively over the soles and other parts of the feet.

Almost immediately the offensive odor disappears. The physician must be the guide as to the strength of the solution used. It must be sufficient to destroy the microbe of sweat, whose toxin is depressing.

Thus we have the odors of disease well marked and defined, such as variola; the odors of races, of menstruation, of vegetation. Besides, some highly civilized beings have an idiosyncrasy to odors, which are productive of headache and nerve disturbance—intolerable odors which give rise to nasal, laryngeal and lung trouble.

ŒNANTHE CROCATA (*Water Hemlock, Cowbane*).—This plant is conspicuous in the cure of epilepsy of the most intractable form, succeeding in warding off the spasms when all other remedies have failed.

Our preparation is made from the plant, specially imported from Scotland by ourselves, and is most reliable. Properties extracted by percolation.

Dose: Variable; best to begin with small doses, 1 to 5 drops, and increase very gradually, every three hours, in water, until the spasms are warded off.

ŒDEMA.—A swelling produced by the accumulation of a serous fluid in the interstices of the areolar tissue. Recognized by its softness, by leaving an indentation for some time, which gradually disappearing is pale, and without pain. (See Dropsy.) Œdema common in weakened parts, serous or seropurulent infiltration of the submucous tissue of the glottis, with symptoms resembling croup, but attacks adults rather than the child; is in all cases very fatal.

ŒDEMA, PULMONARY.—Serious apoplexy of the lung. The primary, pathogenic condition of pulmonary œdema is the stoppage of the capillary circulation in the alveoli from the increased blood pressure in the left auricle: a too free supply of blood from the right side of the heart coming through the pulmonary

arteries; exudation taking place. Whether mechanical or passive in its origin, it is invariably accompanied with persistent dyspnea, a great increase of carbonic acid in the blood and death of the heart from general asphyxia and pulmonary œdema, which had its origin in the left auricle.

There are three forms recognized: congestive, inflammatory, toxic.

Its etiology embraces infective conditions: toxic agents in the blood, the toxins of the bacillus amylobacta, epidemic influenza, diphtheria, typhoid fever, pneumonia, chronic alcoholism; cardiac disease an important factor.

Usually ushered in with profound prostration, tickling in the fauces; painful, most irritable thoracic tension; intense dyspnea; continuous spasmodic cough, followed by frothy expectoration; cyanosis, colliquative sweats.

With regard to treatment, experience has shown the undeniable value of the acetic tincture of lobelia, followed by dioxide of hydrogen, with nitroglycerin suppositories.

ŒSOPHAGUS, STRICTURE OF.—Two varieties, spasmodic and organic stricture.

SPASMODIC STRICTURE.—Usually comes on suddenly during a meal, and is followed by a rejection of food, a sense of constriction and inability to swallow; often depends upon swallowing some acrid substance; reflex irritation from the gums, stomach, bowels; reflected to medulla; then transmitted by weakened nerves that supply the circular muscular fibres or rings of œsophagus.

Remedies.—Apply stimulating remedies to the spine from the nape of the neck down; administer extract sumbul and alternate with coca, lobelia comp.

ORGANIC STRICTURE.—Consists in a thickening of the circular muscular rings, with lymph, excrescences, tumors.

The difficulty of swallowing is always encountered and permanent.

The digestive action of either papoid or trypsin has been tried in digesting organic stricture; it is usually combined with boroglycerid paste and made into a bolus sufficiently large to swallow, but of such a size as to be arrested at point of obstruction, at which point it operates well, for it will digest the adventitious structure of a stricture more readily than a normal tissue; it can also be inserted on the hollow point of a bougie.

OIL.—This is a collective name, under which two classes of fluids are included, very different from each other. Those belonging to one class are viscid, mawkish, almost insipid; those of the other class are devoid of viscidity, are caustic, antiseptic, volatile; the former being known as fixed oils, the latter volatile or essential. All of utility in medicine.

OLIVE OIL.—Pure olive oil is useful in infancy, adult life and old age, in health and in sickness. Its increasing demand would very decidedly indicate an increasing knowledge of the laws of health.

Much is sold as olive oil which has nothing of the olive about it save the name. Much is of an inferior grade.

A good, pure oil is valuable, all others worthless.

Pure olive oil has been well known and freely used by the members of the medical profession in all forms of chest trouble, but it does not receive as much attention as its valuable properties and its successful use would seem to merit.

From the earliest moments of infantile life—and we might add, as early as its first bath—olive oil will be found a valuable application for the new-born infant, soothing and nourishing the delicate skin.

One of the most important things to have always on hand in the nursery, therefore, is a bottle of the best olive oil.

In a large proportion of the diseases of infancy and childhood it will be found of the greatest value. It is especially useful in all forms of bronchial diseases, whether acute or chronic. It relieves the congestion of the mucous lining of the air passages, maintains an equable temperature, affords a soothing warmth, and is, without doubt, highly nutritious.

It is safer and better than jackets of Indian meal or any of the common applications found in the nursery.

The oil should be slightly warmed, then the patient's chest should be bathed profusely with it. Afterward a strip of clean, old, and soft shirting, large enough to completely envelop the whole chest, and thoroughly saturated with the oil, should be carefully applied. Over this a larger piece of dry cotton cloth must be firmly but not too tightly adjusted.

Inunctions will be found excellent in all cases where artificial nutrition is sought for.

In all eruptive diseases like measles, and especially in scarlet fever, chicken-pox, etc., nothing is better for an external application.

OLEUM HYPERICI.—This oil is made by filling wide-stop-

pered bottles with flowers of St. John's-wort; then fill them with olive oil; the bottles so filled to be exposed to the action of the sun's rays for about six weeks, or until the oil becomes of a deep-red color. It is then fit for use. In its action, when applied to the human tissues, it is an anesthetic, and has the identical properties of arnica, marygold and mullein; hence, it is of efficacy in contusions accompanied with ecchymosis.

In th otalgia of children, whether due to neuralgia or inflammation or rheumatism, it does not produce the effect that is obtained from mullein oil; it does not relieve the pain so promptly.

If a patient be suffering from violent earache, the ear filled with peroxide of hydrogen and retained until effervescence ceases; then emptied, and from three to five drops of warm mullein dropped into the external meatus, it promptly relieves pain.

It is doubtful whether, in the near future, that all those vegetable agents be not entirely superseded by the jelly of violets, introducing one or two grains into the ear.

Oleum Verbascum.—Identical in proportion to therapeutic effects.

OINTMENTS.—Quite a number of new ointments have been introduced, all having their base in petrolina jelly or vaselin. Some of these possess rare value, and are entered in the pharmacopeia.

Ozone Ointment is a powerful bactericide.

Indicated: In all skin diseases, as in erythema, eczema, lichen, psoriasis, prurigo, pityriasis, impetigo, all forms of tinea, blotches, pimples, burns, frost-bite, erysipelas, excoriation, ulcers, varicose veins, itch, scurvy, piles, as a dressing to all wounds or sores.

Its energetic germicidal properties render it the finest, most penetrating emollient, healing product virtue, as no microbe can live under where it is applied. Hence it is valuable locally in phthisis, pneumonia, metria, balanitis, chancre.

Chrysophanic Acid Ointment.—In variable strengths, 10, 20 and 30 per cent is of great therapeutic value in psoriasis, lepra, and cutaneous leprosy.

Applied in its high potency, it causes a complete exfoliation of the malignant cutaneous affection, leaving a healthy tissue, and if the proper constitutional remedies are administered, seldom reappears again. A strength that will cause desquamation is desirable in all cases.

GAULTHERIA OINTMENT.—This ointment has a most remarkable affinity for the bacillus amylobacta, the pathogenic microbe of rheumatism. By endosmosis it passes into joints; over the pericardium of the heart it has an active sterilizing effect, as is visible from the prompt relief of pain. Besides killing off the bacillus, it neutralizes its toxins.

As an agent to be employed in partially ankylosed joints due to gout and rheumatism it has no equal. Best applied by gentle massage.

GUAIACOL OINTMENT.—A much more active agent than the pine-tree ointment, being capable of completely annihilating the tubercle bacillus. In endosmosis it has remarkable powers of penetration; in the same potency as the pine it will double it in real practical utility as a bactericide. It is also exceedingly valuable in cases in which the gonococcus has migrated to the testes and produced orchitis, with considerable pain and enlargement. Bathing the scrotum with water as hot as can be tolerated, drying off, then applying guaiacol ointment every three hours, speedily brings about resolution.

Guaiacol ointment or jelly is inimical to the microbe of erysipelas; its microbicide properties are great in destroying every vestige of the germ.

MEXICAN OINTMENT.—The climate of Mexico is most relaxing, hence hernia is very common among both old and young of both sexes. Some twenty years ago a celebrated surgeon in the City of Mexico introduced this ointment as an application over all hernial openings so as to induce contraction, and at the same time excite adhesive inflammation, with effusion of plastic lymph and obliteration or filling up of the hernial aperture. The method adopted in its application is to return the hernia, bathe over it, dry well, then apply the ointment over and above all the truss, pad or compress. The application is unattended with danger, and is more successful and rational than the injecting of irritants into the hernial aperture. In order to effect a radical cure keep on with its application for a few weeks, until abundance of plastic lymph has been effused.

SIEGESBECKIE OINTMENT.—Being a powerful germicide, has great healing properties in gangrenous ulcers. It is of utility in all vegetable parasite skin diseases. It contains an alkaloidal substance called daturin, which is an active bactericide.

RESORCIN OINTMENT.—A valuable local application to all cancerous cavities and ulcers. It operates well also in syphilitic sores.

Resorcin ointment is the best known of all the germicide cerates, and can be successfully prescribed in acne, eczema, pruritus, in all acute and chronic skin diseases. One of the best and most reliable of all cutaneous applications.

Saw Palmetto Ointment.—This is prepared from the oleoresin of the ripe, undried berries, and possesses all the medicinal properties in a very marked degree of this very celebrated agent. As a vitalizer, a promoter of nutritive growth and development of the organs of generation in both sexes, there is no remedy which can be compared with it. It is easy of application; simply bathe the breast or scrotum, dry well, apply the ointment with gentle massage or friction for fifteen minutes, morning and night. During the day and night a thin coating of the ointment should be kept in close approximation without pressure.

Storax Ointment.—This is prepared from the best Persian storax, and makes one of the most valuable of all microbicide ointments. It unquestionably forms one of the most valuable dressings for cancerous cavities after removal. An elegant application to syphilitic sores.

Pine Tree Ointment.—The oil of the needles of the North Carolina pine incorporated into ozone ointment, potency 10, 20 and 30 per cent. This ointment, containing all the ozonizing aroma of the pine, when applied over a tubercular solidified lung, over tubercular damaged joints, inhibits, sterilizes, and is actively inimical to the vitality and growth of the tubercle bacillus underneath. We do not claim that it will annihilate the bacillus; it is a scavenger and puts the germ in a quiescent state; valuable as an auxiliary agent.

OLD AGE AND PREMATURE DEATH.—Pathology teaches us that the chief characteristics of old age are the deposit of calcareous matter in the heart and blood-vessels. This results from a slowed action of the heart and defective elimination. Ossification causes this condition, upon which nutrition depends.

In youth digestion is perfectly performed, assimilation is rapid, repairs promptly made; not so after the middle period of life.

Three-fourths of the human body is water, which holds those earthy salts in solution; but as time progresses, assimilation and elimination become defective, and the human blood, which contains lime, magnesia, iron, having done its work in the

body, in early life is thrown off; as age advances, it has not the power to do it.

Blood is produced from food, and we must look for an early accumulation of earthy salts, if the diet is not well guarded. By a careful selection of diet, man can prolong life; by keeping those earthy salts at a minimum, and in a state of solubility. Bathing, pure air, warm clothing can do much, together with a proper selection of food.

Living matter, as it deviates from the simpler protoplasmic cellular type and becomes more complex, loses its vitality. Cells in the course of their existence become differentiated—that is, they are changed from the primitive type; they attain a higher degree of perfection; their functions are exalted; they become specialized, and, in doing this, they lose some of their power of attraction; their resistance is lessened; in other words, what they give in quality they lose in quantity. But, fortunately, all cells are not highly differentiated, and all do not reach their maturity at once. If they did, our lives might be shorter than they are. The nerve cell is probably the most highly differentiated, and is the first to wear out, other things being equal; while the connective-tissue cell is the least differentiated, and as a result enjoys a long and happy existence. When the more highly organized cells cannot be reproduced rapidly enough to fill in the gaps, their place is taken by connective-tissue cells, the functions of the organs are interfered with, and old age commences.

Degenerative changes in the nerve cell give rise to numerous and varied miseries, which are seldom relieved by active treatment or modern remedies, consequently new treatment and newer remedies are in demand by those who feel the trammels of senility closing around them—anything reliable is a welcome addition to our therapeutical resources. There are two forms of old age, the premature and the really aged.

Premature old age, in which the individual is unable to attend to the ordinary demands of life, owing to debility, to constitutional defects, infectious diseases, depressing emotions, venereal excesses or losses.

In genuine old age, senile involution, with a tendency to arteriosclerosis, the functions of the body are slow, inefficient, appetite poor, digestion feeble, defecation insufficient, heart's action feeble, respiration superficial, everything a burden; he is indifferent to surroundings; has vertigo, indecision of character, weariness, insomnia, impaired memory, sexual power at

a low ebb, the expulsive power of the bladder feeble, walking bad, dull pain in the knees, temper testy, peevish, fretful, selfish.

The mean duration of modern life is between 40 and 50 years; but the cycle of physiological life should be 100 years. Few reach that, owing chiefly to bad inheritance, neglect in the bringing up, bacterial poisons, improper or adulterated food, deleterious trades, insanitary states, impure air, overwork, use of alcohol, sexual excesses, draining off the nervo-vital, excessive brainwork with monotony, worry, grief, anxiety, accidents, concussions.

OLFACTORY NERVE, in which the sense of smell is located, has its origin in the medulla oblongata, leaves the brain opposite the inner part of the fissure of Sylvius by three roots, or branches, which by their union form a triangular knot or expansion, reaching the ethmoid fossæ, where it spreads itself, forming a triangular ganglion or a grayish soft bulb, which furnishes from its inferior surface the branches, which are distributed to the nasal fossæ. These filaments are numerous, pass through the foramina in the cribriform plate and enter the nasal fossæ. They are arranged into the internal, external and middle. The former is distributed over the mucous membrane, covering the outer walls of the nasal fossæ; the second descends upon the septum, and the third is lost on a portion of the pituitary membrane that lines the vault of the fossæ.

It is impossible to justly appreciate the marvelous function of this nerve, in either warding off, annihilating disease germs or rendering them innocuous; how in inspiration a germ-laden atmosphere passing over it, and in expiration free of both them and toxic products of their growth; susceptible in certain neuroses of producing grave pathological conditions, as in hay fever so called.

ONYCHIA.—A peculiar ulceration, usually commencing in the matrix of either the finger or toe nails. Common in children under ten years of age; due to filth and breathing a deleterious atmosphere of animal and vegetable matter in a process of decay; later in life, syphilis, lead and mercury are at its origin.

The exciting cause is an injury or some form of irritation. It has a microbic evolution, identical with fungous foot, com-

mences with the end of the finger swelling, and an effusion of serum under the nail, which loses its natural color and becomes thin and flattened at the end and curled up laterally, divesting itself from its normal attachment, exposing a foul and painful ulcer, with characteristic fetor. If not promptly attended to, the phalanx itself may become necrosed.

The latest method of treatment is based entirely on the presence of a disease germ, and consists first in washing the affected member with a lotion of formalin, one ounce to a quart of water, trimming the nail back to where it is attached to the matrix, dusting on iodol, bandaging, then immersing the finger every half hour in peroxide of hydrogen.

Repeat this daily; it is the most successful local treatment; free from the usual modifications of cutting, scraping, burning. The formalin wash is a valuable disinfectant and parasiticide brought into the presence of living organisms; it is powerfully destructive to them and all microscopic life, and has a distinct influence in promoting a renewal of life.

The peroxide, preceded by dusting on iodol and keeping it saturated, works well.

In a few days, apply the rubber adhesive plaster, which fits better, is softer and easier applied, requiring neither heat nor moisture.

OPACITIES OF THE CORNEA.—Sulphate of cadmium must never be overlooked as an active absorbent in corneal opacities, nebula, albugo, leukoma. Add two and one-half grains of this remedy to one ounce of mucilage. Shake well, then dip a camel's hair brush in it and apply it to the centre of the spot of haziness, and retain it in contact with it for a few seconds. At the commencement, the application is best made once a day, but after a while it can be repeated two or three times in twenty-four hours. As the pain decreases, after each application, the strength of the solution may be increased to five, even seven, grains to the ounce. When its opacity is of recent formation it readily disappears under this remedy, but when it has existed some time, the application may have to be continued longer.

OPHTHALMIA (*Conjunctivitis*).—Inflammation of the mucous membrane of the eye and inner aspect of the lids is met with under the following different forms: Infantile, common acute, purulent, gonorrheal, tubercular, rheumatic, granular.

All are contagious and infectious, because each one contains a pathogenic microbe, the living, breeding germs of disease. They have certain symptoms in common: pain, heat, redness, swelling, with intolerance to light, mucopurulent discharge and a sensation as if there was sand in the affected eye, with great constitutional disturbance, headache and fever.

There are certain measures in treatment common to all, such as confinement to bed in a dark room with his surroundings hygienically perfect; passiflora incarnata for fever; as the ophthalmic nerve originates in the cervical portion of the cord, apply to the nape of the neck and under the eye a thin coating or plaster of the jelly of violets; dissolve one grain of atropia in one ounce of rose water, drop a few drops into the eyes every one or two hours. In all cases the affected eye must be washed out with some antiseptic lotion; cover the eye lightly with some cloths wet with the same solution. If one eye only is affected, guard the other with extreme care. Bowels must be kept open with periodate aurum; bathing at least morning and night; nutritious diet, but no stimulants.

1. Infantile Ophthalmia.—It is customary by the profession to attribute this form to either leukorrheal or gonorrheal discharges of the mother, or to the glare of light or currents of cold air. This, as a rule, is not correct, for on careful investigation we find that it is due to imperfect removal of the sebaceous secretion with which the child at birth is covered—decided carelessness in the application of the oil to unite with that secretion, and permitting it to enter in either the inner or outer canthus of the eye.

If this should occur, it will manifest itself inside of nine days after birth, ushered in with slight intolerance to light, discharge, and, if permitted to progress, all the symptoms become well defined.

The general principles of treatment must be carried out: bathing, atropia, violet jelly, and usually a hot solution of boroglycerid should be used for washing out the eyes, to which peroxide of hydrogen may be added, and cloths wet with the same lightly laid over the affected organ. The mucopurulent discharge, greater or less, must never be permitted to accumulate, as it is liable to give rise to haziness or opaqueness of vision, or even penetrate the cornea.

2. Common Acute Ophthalmia.—Generally the result of irritation, dust, sand, foreign bodies, cold, exposure.

Same treatment as for the purulent.

3. PURULENT OPHTHALMIA.—Most aggravated of all the varieties, generally due to insanitary conditions, overcrowding. Often prevails in epidemic form. A low grade of this species exists in our public schools, disseminated by the use of towels used by the infected. Exceedingly contagious and infectious. Immense amount of mucopurulent discharge, which flows from the corners of the lids. The inflammation is intense, progresses with rapidity; conjunctiva enormously swollen, intensely red; blood-vessels much engorged, elevated above cornea (chemosis); often several small points of ulceration can be detected; great danger, liability of the cornea being destroyed. Constitutional symptoms are of great severity.

The treatment must be of the most active description; veratrum viride, aconite, passiflora, vapor baths, atropia in eye every three hours, sulphate of quinine and protonuclein; wash out affected eyes with a tepid solution of ozonized boroglycerid, with an excess of peroxide of hydrogen added; place jelly of violets to nape of neck, and insert in the affected eye one grain of the jelly at bedtime. Its effects are marvelous in subduing inflammatory action and killing microbes.

Enforce rigid antiseptic precautions and avoid all insanitary states. Destroy all cloths that have been applied.

Under this rigid treatment, the microbes are completely annihilated, and recovery takes place.

4. GONORRHEAL OPHTHALMIA.—This is either due to the direct application of the gonococcus to the edge of the lids in individuals who have the gonorrhea, to imperfect cleansing of the hands, or to towels used by the infected, etc., or to the toxin of the gonococcus irritating the sclerotic coat. As a rule, the inflammation progresses with great rapidity, most destructive in its effects, and symptoms severe. The same treatment as inculcated under the purulent should be tried, washing ing out the eye every three hours with a solution of permanganate, strength of three grams to the ounce of distilled water, applying cloths lightly saturated with peroxide of hydrogen. Alteratives and tonics are indispensable for a cure.

5. TUBERCULAR OPHTHALMIA.—Occurs only in individuals who possess an intense tubercular diathesis, and is characterized chiefly by the greatest possible intolerance of light, with no pain, no redness, no sensation of sand, no mucopurulent discharge, merely a little mucus. The atropia solution may be useful, but, as a rule, a lotion of chloride of sodium, three grains to the ounce of water, with a dram or two of per-

oxide of hydrogen added, makes the best wash and local application to the eye. Enforce a rigid treatment for tuberculosis, matricaria for a tonic, glycerite of ozone and mistura guaiacol to kill the tubercular bacilli in the blood, at the same time resorting to all obtainable methods of building up vital force. Protonuclein, c. p. solution spermin.

6. RHEUMATIC OPHTHALMIA.—In this form the bacillus amylobacta has invaded the white fibrous tissue, the sclerotic coat; toxins are excreted, which give rise to most agonizing pain; but little redness, but considerable intolerance of light. A serous discharge, often profuse, runs from the eye. Considerable constitutional symptoms, with pain in the head; and the leading symptoms of rheumatism present themselves.

To the affected eyes, dry heat, or baked chloride of sodium, as hot as can be tolerated, renewed frequently; atropia always serviceable; dark room; otherwise the general treatment for rheumatism should be pushed energetically, selecting from the following: ozonized glycerite of wintergreen, manaca, matricaria, ozonized uric acid solvent, tinc. cimicifuga racemosa, protonuclein, comp. saxifraga and phytolacca.

7. GRANULAR OPHTHALMIA.—A result, an effect, or concomitant of some of the other forms, especially if the affected individual is greatly debilitated in health, or the treatment poor. It consists in granulations, enlarged papillæ projecting from the conjunctiva, apt to extend to the entire mucous membrane covering the globe of the eye; there is intolerance to light, a seropurulent discharge, ulceration and opacity.

Atropia of utility; a lotion of resorcin, three grains to the ounce, as an eye-wash. A grain of jelly of violets in affected eye every night is of great efficacy. Internally, comp. saxifraga and matricaria, and every possible means to improve the general health by a highly nutritious diet. The next best remedy in granular ophthalmia is a good strong infusion of the pulverized decorticated jequirity bean. It is a safe remedy, rapid and efficacious in its results.

8. OPHTHALMIA TARSI.—Inflammation of the Meibomian glands at the roots or matrix of the eyelashes. May be a sequel of some of the preceding forms; often sympathetic from gonorrhea, but most generally dependent on the bacillus of tubercle and syphilis in the blood; insanitary states and malnutrition are favorable for its evolution.

The cause is a devitalized condition of the edge of the eyelids, and the evolution of a microbe in the Meibomian glands and all

around the edge of the lids, which renders it essentially contagious and infectious. The micro-organism is extremely virulent, one case contaminating the atmosphere of a large school.

Its characteristics are either in the acute or chronic form by some degree of irritation, lachrymation and intolerance of light, and on everting the lids the granulations are visible as elevations on the mucous membrane of the lids, never encroach on the globe. These granulations are variable in size and arrangement, and they do not all appear to mature at the same time; in color grayish or yellowish, often hidden by the surrounding papillæ; ulceration, incrustation of the lids, cicatrices form as the result of degenerative changes.

The malady is becoming very common—so much so that formalin should be kept constantly exposed in all our schoolhouses, theatres, churches.

In calling the attention of our readers to granular ophthalmia, we have no reference whatever to the sympathetic redness of the lids in cases of gonorrhea or masturbation.

The most successful treatment ever presented to our profession consists in a rigid avoidance of all insanitary states, bathing, best of nutrition and a constant evaporation of formalin vapor in the apartment. To the edge of the lids, to the eyes, a highly ozonized solution of boroglycerid should be kept constantly applied, and the edge of the lids everted should be painted thrice during the twenty-four hours with jelly of violets.

Vigorous treatment is indispensable for the relief of the patient.

Speaking pathologically of the different forms of ophthalmia, every one has its own pathogenic microbe, which renders each contagious.

In recent years, towns and cities on the banks of rivers, along the line of the sea-coast, have the output of their sewers emptying into which bathers enter, which has caused another virulent form of ophthalmia to appear, known as pink eye. To prevent this, bathing must be restricted, so that it should not be performed within five miles of any sewer outlet; if within that restricted area, there is danger to all bathers' eyes, coming in contact with the microbes of typhoid fever, pneumococcus, diphtheria, etc., a conglomerate mass of germs, which gives rise to pink eye, a sewer-bred bacillus. Same treatment as the purulent; action so as to prevent granulation and corneitis. In such cases boroglycerid lotion is invaluable.

OSTEOARTHRITIS.—An acute and subacute inflammation and enlargement of joints, differentiated from rheumatism by the character of the swelling being in the bones, chiefly involving the large joints; circumscribed, permanent, not moving from joint to joint; not usually affecting the smaller peripheral joints; negatively by its obstinate character, absence of tonsillitis, cardiac lesions, and profuse acid sweats—from gout by the want of periodicity, length of the attack, involving chiefly large joints, like the knee; no disposition to metastasis, but in osteoarthritis, in addition to the bone-pain in the larger joints, stiffness of the neck and jaws, a stabbing pain in the wrist, ball of the thumb, numbness and tingling in the extremities. Common among people in advanced life, due to degenerative changes in the epiphysis of bones.

Alteratives and tonics internally; among the best are saxifraga and carbonate of guaiacol. The latter does interfere with digestion, but in the intestines splits up into carbonic acid and guaiacol; an excellent remedy in this distressing malady, free from all irritation, stimulating an appetite, facilitating assimilation. Begin with five grains thrice daily and increase to ten and twenty grains, relieving pain, reduces temperature, and diminishes swelling. Locally, either keep joints wrapped up in cotton or apply compresses of alcohol and salt or olive oil, followed immediately with concentrated ozone. Persevere on this line.

OTORRHEA.—We naturally ask what causes the discharge? Where is the initial starting point? What is its extent? What tissues and structures does it involve?

The ear is a delicate organ, made up of very highly organized structures, a bony frame-work, with cartilages, muscles, nerves, blood-vessels, mucous membrane; divided into external, middle and internal.

The ear is shut out from the outside world by a drum or tympanum; this membrane is attached to a series of bones, to hold it tense, and when so held receives the undulations or waves, or vibrations of sound, and plants them upon the auditory nerve.

The cavity of the inner ear is connected with the throat by the Eustachian tube. In order to have good hearing, there must be an unobstructed passage for the air to go in and out, according as the cavity of the ear is made lesser or greater, by the movement or vibration of the tympanum. If the

Eustachian tube be closed, air cannot enter the ear cavity, sound cannot cause the membrane to vibrate—deafness is the result. It is the brain that hears; the reflection of the auditory nerve upon the tympanum is the medium of transmission. Variable pathological conditions are liable to take place, chiefly from inflammation induced by cold, injuries, toxins of disease germs, such as thickening of the mucous membrane; ankylosis of the small bones, that they cannot move.

Very many constitutional conditions affect the ear, and give rise to conditions dangerous to health and life.

Individuals suffering from inflammatory states of the ear, with otorrhea, have a less chance of long life—their brain is more exposed to the ravages of disease, more liable to have a penetration of morbid action with the mastoid cells.

Some recent remedies are of intrinsic value in ear maladies, such as peroxide of hydrogen, jelly of violets, mullein oil.

OVARINI.—The absorption of the ovarian secretion makes the woman. When ovulation ceases, between 45 and 50, and there is a complete absence of this internal secretion, there is usually great constitutional disturbance, with a marked change in every organ of the body, and a variety of troublesome symptoms, such as congestion of different organs, excessive hemorrhages, dyspepsia, flatulency and vertigo, rheumatic and neuralgic pains, cutaneous eruptions, profuse sweats, ulcers of the legs, hysteria, pseudo-apoplectic seizures, diseases of the breasts, insanity, paralysis, are common. The constitutional disturbance attending this critical period, the want of the internal ovarian secretion, is indicated by great turmoil of the cerebral circulation, with irregular action of other vital organs.

The effects of the change locally are briefly as follows:

1. Atrophy of the uterus, together with atrophy of fibroid tumors, should they exist.

2. In cases of polypoid growths, the hemorrhage, as a rule, is less, due to the diminished blood supply to the uterus and its appendages.

3. The change has no beneficial effects whatever upon malignant disease of the pelvic organs.

The treatment, to be effective, must be direct; we must supply the system, at least for a few years, with ovariin, for which the brain and other vital organs are literally starving, and gradually and comfortably merge her into the new life into which she is entering.

She needs a bracing tonic, which is to be found in the comp. tincture of matricaria, which should be always administered before meals; she needs a vitalizer, a restorative, a remedy that will brace up her tissues, and make her feel young again, which she has in the wine of the aletris farinosa and comp. syr. partridge berry.

A course of treatment like the above has been found most useful in tiding the patient over this crisis.

OVARITIS.—Usually caused by some uterine irritation, as abortions, absorption of lochial products.

It is met with acute and chronic. Deep-seated pain over the region of the ovary, aggravated by pressure, numbness in the limbs, extending down to the thigh, sharp, darting; stinging pains in the ovary.

Our best remedies are rest, recumbent posture, local stimulation over affected ovaries; try first a combination of aconite, belladonna and gelsemium, with pure cocain suppositories in both vagina and rectum—if these do not afford good result, bromide and iodide potass in fluid extract sumbul. Run it into a chronic form, then administer fluid extract of salix nigra. General course of tonics and alteratives. Pulsatilla in alternation with passiflora is of great efficacy.

OVULATION.—No organ in the body exerts so great an influence over physical and mental development as the ovaries. At birth they are very small, smooth and flat, but as age advances they enlarge and become oval and tense. When about puberty, they so greatly increase in size that they are matured and throw off or exfoliate or discharge the ova. Puberty among the Caucasian race and in our own country is usually about fifteen years. When this event takes place, the ovaries assume a nodular appearance, due to cicatrization which takes place after the discharge of the ova, and this condition remains till late in life, when they shrink, atrophy, and present the appearance of short and thickened bands.

Menstruation usually accompanies ovulation, through the child-bearing period of life.

This consists of a discharge of blood and detritus, which comes from the uterus, and ought not to exceed four ounces, and in health passed without pain.

Puberty ushers in complete ovarian development; simultaneously with this the breasts enlarge; nipples become prominent;

vagina more roomy; mons veneris covered with hair, pelvis broadens, hips and thighs increase in size, and become rounder; even the voice and the whole tone and aspect of the body change when these characteristic landmarks appear.

Unless some shock, disease or pregnancy take place, menstruation will continue from 15 to 45 years of age, at which latter period they cease, when ovarian atrophy sets in. The cessation of the menses or change of life, menopause generally, therefore takes place about 45 years, at which time we see something of a return to the muscular type; the voice becomes coarse, breasts atrophy, more or less hair appears on the lips and chin—there is a general shrinkage and coldness of the sexual organs.

There has been much discussion regarding ovulation and menstruation, the relationship between the two. Ladies enjoying the highest possible state of health are frequently met with who never had the slightest discharge, and conceived. Conception often takes place in young ladies before the menses have appeared; in married women while suppressed during lactation.

The age at which conception is possible varies greatly in races and in individuals.

In tropical countries and other races than the Coucasian, often as early as 10 years; in cold climates 17 to 21. The ovaries mature early in hot climates, late in cold countries. The general well-being of a people; rich or meagre diet, condition of life, the city or country, all influence growth and maturity.

Conception is very rare in women who suffer from organic disease, such as diabetes, or from deficiency of blood and nerve elements, as anemia, or chlorosis—states in which the ovaries are incapable or do not possess sufficient energy to evolve healthy ova. The ova are discharged periodically, once a month or every 28 days, and it is near that period that impregnation is most likely to take place, for about 10 days before or after.

The season of the year has a most remarkable effect on conception—being much more common in the spring and summer than in the autumn and winter months.

The quantity and quality of food used by a given race affects conception. More children are born where there is plenty and comfort than in abject poverty. Again, women in moderate circumstances are more prolific than those living in luxury. Isolation, sameness, indoor life induce sterility. Stability of our political institution is favorable for fecundity.

Menstruation is a mere symptom of evolution. When it does not make its appearance until the 20th year it is a sign of non-development or atrophy of some essential part of the generative organs. From 46 to 50 years of age, it becomes permanently suppressed and indicates senile sterility. The menses may be arrested by fright, cold, great physical and mental excitement, and indicates a condition unfavorable for conception.

Many women claim to be able to tell the precise date of their impregnation, due probably to the perfect orgasm which takes place.

In most of the lower animals the relative position during copulation of the two participants is back to belly, the part played by the female being merely passive throughout; but in man she is more of an active agent, this being rendered possible by the belly to belly position.

This position also brings the most sensitive parts of the genital organs of each sex in contact. The engorged and sensitive clitoris during coitus is drawn down by muscular action, so as to make it come in contact with the superior aspect of the penis, while the corona glandis of that organ causes friction against the roughened folds of the anterior vaginal wall.

In many married and young women, the anterior wall of the vagina, situated behind the symphysis pubes, is even more sensitive than the clitoris, so that if friction be continued for some time, all the female organs of generation become engorged with blood and roused into a state of great excitement. Muscular action is excited. The uterus enlarges, becomes cylindrical, straightens out in the axis of the canal. Its external os becomes dilated and round, while the plug of mucus, normally closing that opening, is expelled. With these changes, there is a slight descent of the uterus towards the mouth of the vagina, while its fundus is tilted back to the sacrum, so as to bring the uterovaginal axis down to a right angle. When orgasm approaches, the contents of the vulvovaginal glands are discharged in jets and the vagina and uterus take on a rhythmical, contractile action, which assists the entrance of the seminal fluid, as it is ejaculated over the cervix into the uterine cavity. By these same contractions the uterine terminations of the Fallopian tubes are also opened.

OXALIC ACID DIATHESIS—OXALURIA.—When the co-ordinating chemical centre is further enfeebled by some ner-

vous disease, alloxan is formed in sufficient quantity to combine with glycogen and prevent the formation of other substances; oxalic acid is formed, and appears in the urine. Now, this diathesis is dependent upon very great nervous prostration, especially in the nerve-centre and nerves that supply the lungs, stomach, pancreas, and liver. Generally found in old cases of chronic bronchitis or nervous dyspepsia, and is characterized by the persistent appearance of crystals of oxalate of lime in the urine.

Rhubarb may cause a temporary appearance of oxalic acid, which disappears as this vegetable is discarded or discontinued.

The crystals appear in the form of minute, transparent octahedra, or like dumb-bells.

The persistent presence of oxalic acid in the urine indicates the very low state of vital power, and is very liable to give rise to two distinct and dangerous complications:

1. A concretion of oxalate of lime (mulberry calculus) may form, either in the kidney, bladder or prostate.

2. The poisonous action of oxalic acid in the blood is liable to produce irreparable lesions in the brain, heart, stomach, etc.

Treatment.—Great attention should be paid to diet. It should be generous, consisting of animal food, eggs, fish, milk, etc.; all articles that contain oxalic acid, as rhubarb, sorrel, tomatoes, sugar, etc., be forbidden; daily shower-baths, followed by friction; flannel clothing. Vegetable alteratives and tonics should be administered. Our best tonics are iron, cinchona, hydrastis; muriatic acid in compound tincture cinchona is invaluable.

The above three states are what is understood when we use the term "gravel," being the passage of one or the other of those three bodies in the form of a gritty powder, or sand-like bodies, or small calculi, occasioning pain, irritation of kidneys, ureters, bladder, and urethra.

Of those three principal forms, the uric acid is present in about eighty per cent of all cases, and gives rise to more irritation than either of the other two forms. All ages and both sexes are liable to be affected. They often give rise to nephralgia or neuralgia of the kidneys.

In order to relieve this condition promptly, hot baths, hip-baths, hot fomentations to loins; open bowels with salines, and enemata.

OXYGEN COMP.—Dose: Internally. One teaspoonful, three or four times daily, in a glass of cold water, is sufficient to supply the blood with oxygen,—at least with all that it will imbibe, or in any form of blood disease, as chlorosis, anemia, etc.

As a gargle, in scarlet fever, syphilitic, tubercular, malignant sore throat, one teaspoonful in half a tumbler of tepid water, every three hours.

For inhalation, use in full strength in a hot or steam atomizer.

Compound oxygen, or oxygenized water, is a germicide, of immense power, destructive to all micro-organisms, completely annihilating the bacilli of tubercle, syphilis, cancer, fungus of diabetes, germs of scarlatina, etc. Vitalizes the blood, promotes the activity of the pink marrow and entire lymphatic system. Very efficacious in general nervous debility, nerve tire, and in debility of the respiratory organs, as in asthma, bronchitis, consumption, pneumonia, whooping-cough. An invaluable remedy for impure, impoverished, germ-laden blood, or where the blood is literally swarming with myriads of disease germs from overcrowding, sewer gas; in embolism, bacteria-laden blood from imperfect action of the heart, lungs, liver, spleen, or skin.

OZENA.—A degeneration of the pituitary membrane, which gives rise to a disagreeable odor resembling crushed bed-bugs; rather different in odor, intensely offensive and pungent when due to either ulceration in chronic nasal catarrh or mercury, or syphilis. Best treatment, nourishing food, change of scene, saxifraga and tonics. Locally, douche of boroglycerid, resorcin, inhalation of ozone et chlorine, iodol snuff.

OZONE THE GREAT SCAVENGER OF NATURE.—Ozone, allotropic oxygen, has a peculiar penetrating odor, and is the most powerful energetic oxidizing agent known; indifferent in its affinities, converting all into the highest forms of oxidation; most destructive to all forms of microscopic life.

Ozone is produced artificially in the same manner as in nature, by electric discharges in the atmosphere. It is more abundant on sea billows, on the cliffs of mountains, cloud masses, higher and more rarefied strata. Through the agency of rain, and particularly snow, as well as by the descent of condensed moisture, it is conveyed to the lower regions of the

atmosphere. It is then rapidly decomposed by coming in contact with oxidizable substances of either vegetable or animal origin, on which it can exert its effects. Such bodies as carbonic oxide gas, sulphureted and phosphoreted hydrogen are at once attacked, deprived of their gaseous forms and transformed into other combinations which are then transferred to the earth. Air loaded with putrid or miasmatic exhalations is therefore immediately purified by contact with ozonized air, and again a development of such exhalations cannot well take place in the presence of ozone.

The action of ozone on such impure air is extremely powerful. According to Schoenbein, an atmosphere containing only 1-3,240,000 of ozone is capable of destroying all noxious matter contained in an equal volume of miasmatic air.

Ozonized remedies possess the property of imparting or giving off ozone when taken into the body; of destroying all disease germs in the various tissues. Its penetrating power is immense, annihilating disease germs, the factor of morbid action, cleansing and revitalizing all vital organs. The inhibition or taking of ozonized remedies, which have an affinity for the blood and other tissues, gives a higher degree of life, and if there is a partial death restores the lost vitality. It has a special affinity to the dark, germ-laden blood, and restores its natural condition by its germicide property.

All diseases are more easily cured; affections deemed incurable are now brought into a healthy state. The effect of all those remedies is to promote the formation of arterial blood throughout the entire body and to maintain it at a high grade of purity.

Now that it is universally admitted that in all lower states of vitality or conditions of partial death the embryonic living matter of the patient's own body is degraded, altered or changed under the adverse condition into other living matter, a disease germ which is capable, in or out of the body, if the surroundings are favorable, of independent existence and prodigious powers of multiplication or growth—besides it is well known that disease germs floating in the air, water, in our food, find an abiding place in our bodies and become the factors of special microbic disease. This only happens when vital force is depressd, or if vital force be normal such germs are expelled.

The elucidation of the germ theory of disease has completely revolutionized the treatment of all diseases. The most enthusiastic bacteriologists are well aware that one germicide will not

wipe out all disease germs, for example the glycerite of ozone, guaiacol, pine preparations are most inimical to the bacillus of tuberculosis. Remedies when properly administered and persevered with will destroy every spore and germ in the body, diffuse and penetrate to the most minute gland.

The remarkable ozoniferous properties of the succus of the phytolacca berries in annihilating the parasite of cancer and the pathogenic microbe of rheumatism is too well known to our readers to be recapitulated.

The great prevalence of the bacillus of syphilis throughout our country enables those with enfeebled vital force to quaff poison at every breath, is thoroughly wiped out by the administration of the chloride of gold and saxifraga. The bacillus of typhoid, the outcome of nervous debility, so thoroughly diffused by our system of sewerage as to penetrate all our creeks and rivers, can be easily annihilated by nearly any germicide.

CONCENTRATED OZONE.—As a therapeutic agent is a pain-relieving agent of unequaled value in conditions in which its application is indicated and possible, because of its constant effectiveness, rapidity of action, its power of penetration to deep-seated parts, its perfect innocuousness, its freedom from deleterious results.

In rheumatism its action is so profound in connection with glycerid of wintergreen that it possesses positive curative power in annihilating the bacillus, and it is a powerful contributing agent to the prolonging of life. Many, very many cases of pleuropneumonia could not be cured without it, and the patient maintained in comfort during the attack. It must ever be regarded as an excellent drug to relieve pain and aid a cure. It stimulates tissue repair in a most remarkable manner, as is demonstrated by its action in angina pectoris, upon sprains and intractable neuralgia. It is capable of antidoting septic inflammation of serous membranes, as is seen in pleurisy and peritonitis. It gives us the power of economizing nervous energy by relieving pain, thereby enabling us to refrain from sedatives and cardiac stimulants; it is a remedy which saves, stores the reserve vital forces and tides the patient over a crisis by which he would otherwise be overwhelmed.

In some affections its effects are marvelous. Concentrated ozone, three ounces; oil of horse-peppermint, one ounce. Mix, applied over an hepatized lung, a most dangerous condition in pneumonia; it most effectually disseminates the clot; gives the patient breathing capacity.

As an aid to the induction of painless parturition, it seems to possess a transcendental action upon the sentient nerves of the uterus, and with the aid of the obstetric cones, gives painless parturition.

In its application to induce painless parturition, first smear the abdomen and loins with warm, sweet olive oil, then smear on the concentrated ozone. One good application is usually sufficient; still, if not perfectly complete, it can be reapplied.

The cones must always be used in conjunction with the ozone.

OZONIZED DISTILLATION OF THE PINE.—From the earliest dawn of creative existence the ozonized aroma of the pine tree has been utilized as a curative agent in destroying disease germs, the factors of tissue metamorphosis and death. Recently discovered papyrographs show the exhalation from the foliage of this ozone-generating tree, and a decoction made from selected leaves, young shoots and needles, were used by the Egyptians during the captivity of the Hebrews, and also that it was a standard remedy among other ancient nations.

Lately eminent chemists have untiringly devoted themselves to a thorough elucidation of the best methods of obtaining, isolating and holding in suspension the germicidal or ozonized principle in the form of an oil, balsam, extract, and a pure distillation by the action of ozone gas, from the young and tender shoots or needles of the ozoniferous tree.

From the most careful investigation and rigid chemical analysis, it has been ascertained that the pine trees of Maine and North Carolina, in this country, and the Braemer pine in Scotland, yield or generate the largest amount of ozone.

The ozonized distillation of the pine needles is decidedly the only one suitable for internal administration; it is an elegant preparation, a product of the first rank in chemistry, prepared with the greatest care, so that the ozoniferous principle be specially preserved. It is a pleasant, palatable, easy form of administering nature's ozone. When it once reaches the stomach, it speedily enters the blood, is carried to the blood-forming glands, as the spleen, pink marrow, suprarenal capsules, lymphatic and respiratory mucous membrane; wherever it goes it kills the microbes of disease, heals ulcerations and erosions, and restores the parts to a healthy condition; it stimulates a renewal of life in any organ of the body by its germicidal properties and keeps the blood free from all germs. This remedy is specially indicated as a great prophylactic to the entrance or evolution of disease germs in the body.

The great prevalence of asthma, bronchitis, catarrh, consumption and kindred affections in this country, due to a want of acclimatization, too much brainwork too rapid atmospheric transitions to the vices of inheritance and a gross civilization, gives us microbes of rare gravity. Such affections demand a ponderous ozone microbe destroyer, such as we here find. Besides its germicide action, it is a nutritive tonic of the highest order, promotes an appetite, increases assimilation, brings strength and flesh. Its effect on the lungs, on the mucous membrane of the bronchi, air vesicles, nose and throat are simply marvelous; it strengthens and heals; changes the area of germ destruction to health. When administered it rapidly diffuses itself into every air vesicle.

Ozone et Chlorine.—Chlorozone, a union of the two most powerful microbicides held in solution by permanganate of potassa, readily yields its ozone, chlorine and oxygen to all disease germs, and effectually destroys them.

It has been found of great efficacy in chronic nasal catarrh, for the complete annihilation of the ameba which is pathogenic of that malady. Usually used by or in the form of a douche, minimum dose being from 30 drops to a maximum dose of 2 to 3 drams to a pint of tepid water; use by each nostril alternately.

One application, if well performed, eradicates the entire brood of amebas present, followed by some mild antiseptic, a cure follows.

Ozone Water.—The great scavenger of diseased blood. Dose: From a half to one teaspoonful in half a tumbler of water, every three or four hours. It is invaluable in destroying all micro-organisms or disease-producing germs in the human blood, annihilates the germs of typhoid fever, of erysipelas, of diphtheria, scarlet fever, smallpox, and other *contagium virum*. It is of great value in all nervous diseases, cleansing, purifying, vivifying, vitalizing, and increasing renewed molecular growth of the entire nervous system. It is true brain or nerve food, vitalizing and feeding, by promoting good blood for healthy brain. It is of great utility in all derangements of the stomach; it annihilates the sarcinæ of gastric catarrh, corrects faulty nutrition, the outcome of indigestion and malassimilation of food, promotes gestation and lactation, and is a true physical restorer in all cases of sexual debility. It is a remedy of rare value in mental depression or despondency.

When uric acid is present in excess, depression of mind and

irritability of temper are marked, but give place to a feeling of mental buoyancy when the excess is got rid of. Many suffer from mental lassitude, and from depression in the morning between breakfast and lunch. It is at this time that the acidity of the urine is the least, and that the excretion of uric acid is normally at its greatest. Alkalies will produce artificially this condition of things by washing an excess of uric acid into the blood. By administering ozone water in sufficient quantity to neutralize the excessive alkalinity of the blood, the mind clears, and a feeling of well-being replaces despondency and heaviness. A strongly alkaline state of blood permits solution of uric acid in excess, which, in its turn, brings about mental depression. Coincident with increased alkalinity of the blood, excretion of uric acid by the kidneys is proportionately in excess of the average. A dose of ozone water will drive the uric acid out of the blood and diminish its excretion in the urine. Shooting pains in the joints very commonly accompany the disappearance of the uric acid from the blood. The occasional administration of ozone water will not always cure headache produced by excess of uric acid. It is important that flesh food be eaten sparingly. Stimulants must be avoided. In severe cases the diet must be restricted, and occasional doses of the ozonized uric acid solvent given.

OZONE ET FORMALIN.—A union of two powerful microbicides is invaluable as a caustic for cancerous growths; as a powerful disinfectant; air sterilizer—the usual quantity used being a tablespoonful to one quart of water placed around a room in flat saucers. The evaporation of it in this form and quantity, gasified in a room of ordinary capacity, is harmless to the respiratory organs, but very vitalizing to the higher principles of animal and cerebral life.

In a powdered form, formalin-gelatin, it is the ideal antiseptic of the age; dusted on fresh or infected wounds, it forms a firm scab in a short space of time, and requires no other antiseptic treatment nor any other dressing.

Ozone et formalin as a wash or lotion is thus prepared: Take two-thirds of a quart of water, one-third peroxide of hydrogen, two drams each of thymol, formalin, and menthol; mix. Strongest antibacterial lotion known—when applied it kills all germs—saturates the tissues—prevents their decay. Its success has been phenomenal; it is practically without a rival.

Try it, in lupus; simply saturate compresses and apply; its phagedenic ravages cease.

Try it, in eczema, a cutaneous affection, that often taxes the skill of the practitioner, as he often finds that all the various remedies proposed are powerless, until this one is reached.

Try it, in cases of bleeding cancer, with offensive discharge; it is the most effectual lotion to remove the fetor, and checks the hemorrhage, after all the other means fail.

Try it, in all parasitical skin affections, which are contagious for adults as well as children, and all those affected with this should be segregated; they are spread by infection in shaving, hair-cutting, sleeping on railway cushions, towels, drinking-vessels—no matter how or when it comes, apply ozone et formalin; its use is consonant with clinical facts.

OZONIZED SYRUP OF TAR.—Dose: From a half to one teaspoonful, every three hours, or more frequently, so as to relieve cough. Indicated wherever there are bacilli, or microbes, or micrococci irritating the periphery of nerves imbedded in the highly sensitive and exquisitely organized mucous membrane of the larynx; thus it promptly relieves the cough of phthisis, by either sterilizing or destroying the bacilli of tubercle.

OZONE PASTE.—Dose: For external use only. Map out the cancer. Cover sound parts with several layers of adhesive plaster, cut a piece of table oilcloth somewhat larger than the size of the cancer, spread it over with ozone paste one-fourth inch thick, then apply. It may remain twenty-four, forty-eight, or even seventy-two hours, but best to renew every morning till it is completely killed, or drops out, then poultice and dress as an ordinary ulcer.

Paste can be charged with ozone to any degree of strength, prepared to suit all and any special case.

This paste is the most powerful germicide ever prepared, being simply ozone gas condensed by immense pressure into an inert powder, forming a paste of marvelous oxidizing power, which has a special and peculiar affinity to unite with and chemically annihilate all disease germs, or microbes, or micro-organisms without pain or loss of blood.

Although it has a special affinity for the cancer germ, and will effectually destroy it by a process of oxidation, and convert the germ or tumor into an ozonoid or an inert body, nevertheless it is destructive to healthy tissue. What is claimed for this paste is, that it is the most powerful and least painful of all remedies ever discovered for the cure of cancer.

OZONE TABLET.—Triturate, added to a little water. After meals. Indicated in all diseases of the skin, and as a beautifier

of the complexion, an aid to nutrition, a tonic to the whole intestinal tract.

OZONE WATER.—Dose: From a half to one teaspoonful in half a tumbler of water, every three or four hours. It is invaluable in destroying all micro-organisms or disease-producing germs in the human blood, annihilates the germs of typhoid fever, of erysipelas, of diphtheria, scarlet fever, smallpox, and other contagium virum. It is of great value in all nervous diseases, cleansing, purifying, vivifying, vitalizing, and increasing renewed molecular growth of the entire nervous system. It is true brain or nerve food, vitalizing and feeding, by promoting good blood for healthy brain. It is of great utility in all derangements of the stomach; it annihilates the sarcinæ of gastric catarrh, corrects faulty nutrition, the outcome of indigestion and malassimilation of food, promotes gestation and lactation, and is a true physical restorer in all cases of sexual debility. See Peroxide of Hydrogen, with which it is identical in chemical composition.

OZONIZED CLAY.—Dose: Take sufficient quantity of the clay, add to it cold water, and while pouring on the water keep constantly stirring until a paste suitable for a poultice is formed; then spread on fine muslin the size of the tumor or growth. Apply for a few hours, every day, not long enough to cause erythema of the cutaneous surface. It should be bandaged or strapped over the part. The only remedy so far discovered that will absorb internal fibroid tumors in either chest or abdomen, or external infiltration; it causes absorption of effused lymph in true and false ankylosis; it has most marvelous power of absorption, it penetrates to internal parts by endosmosis, and softens and disintegrates. It is efficacious in all simple or malignant growths, tumors or swellings, of great utility in infiltrated breasts, goitre, consolidation of lungs, thickening of the walls of the stomach, ovarian and uterine tumors, enlarged liver; very large tumors disappear under its influence with remarkable celerity, no matter where located.

OZONE OINTMENT.—The most efficacious ointment ever introduced. To be spread on linen and applied two or three times daily. Indicated in all breaches of continuity as a dressing to protect, heal, and kill all disease germs. The best application for wounds, cuts, bruises, burns, piles, ulcers, and cutaneous eruptions. Its action is unexcelled in the bites of insects, ivy and sumach poisoning, boils, and erysipelas. It annihilates the germs of variola on the face, nose, mouth, and throat; sterilizes diphtheric and aphthous patches in the mouth or on the nipple.

When the tubercular bacilli have invaded lung structure, it can be spread on chamois or linen, and applied over the germ colony, aiding the internal remedies in promoting the dissolution of the germs. The range of action of this ointment is immense, from the most malignant cancerous or phagedenic or syphilitic ulcer to the most simple form of abrasion.

OZONIZED WINES.—Ozonized coca wine, an excellent germicide and powerful nerve stimulant, prepared from the finest selected coca leaves Florida orange wine (purely an American product), and negative ozone. Restores the functions of the digestive organs; strengthens the mental and physical powers; appeases the appetite for stimulants, assuages the thirst of diabetes and relieves nervous debility.

Eminent bacteriologists assert that while using this wine the human body is insusceptible to the entrance of microbes.

Kola-nut wine ozonized is composed of freshly pulverized kola nuts, best port wine and negative ozone, which, after thorough maceration and percolation, yields on chemical analysis cocain cinchonin, and caffein. It is, when prescribed, a great mental and physical invigorator, a permanent stimulant, imparts elasticity to the whole body, with remarkable powers of endurance. It is best administered thus: Simple elixir red, four ounces; kola-nut wine ozonized, one ounce. Mix. A tablespoonful before meals.

In the quotidian form of malaria it may be administered in its pure state, or combined with concentrated tincture of kurchicin, thus completely superseding sulphate quinine by its greater germicidal action on the germ.

The wine of aletris farinosa ozonized, composed of the finest sherry wine, in which the glucosides of aletris, viburnum, helonias, senecio are incorporated, together with negative ozone, forming one of the most remarkable tonics for the reproductive organs of both sexes.

For men with weak kidneys, irritable bladder, weeping prostate, varicocele, cold, flabby condition, its action is unexcelled in imparting tone and vigor.

For women with ovarian and uterine tenderness, prolapsus, leukorrhea, a feeling of goneness, this wine is most efficacious; it is essentially a uterine restorative, and in high repute in every debilitated condition incidental to her sex.

PALPITATION.—Pulsations increased in force and frequency, but irregular, intermittent; flickering; with great difficulty of breathing; purring tremor in jugular vein.

Prone to arise, directly from weak heart, or one affected by chronic disease; reflexly from dyspepsia, liver disease, hysteria, anemia; loss of blood; venereal excesses, intestinal irritation, fright, masturbation.

If possible remove the cause. Regulate heart's action with either digitalis or strophanthus, or spartein, or lily of the valley, or adonin, or creatin, or passiflora, or cactus graniflorus.

PANCREAS.—The sweetbread, a gland deeply seated in the abdomen, lying transversely on the vertebral column; between the three curvatures of the duodenum, behind the stomach and to the right of the spleen. In structure it resembles a salivary gland, composed of lobes and granulated lobules, distinct but united by areolar tissue. From the granulations of these lobes arise the radicles of the excretory duct.

The pancreatic duct proceeds in a serpentine course through the substance of the organ, and opens into the duodenum. Innumerable arteries, veins, nerves, ramify in all directions. The nerves emanate chiefly from the solar plexus.

The function of this gland is to secrete the pancreatic juice, which converts amylaceous food into dextrin and glucose; but its great and principal use is to emulsify fatty matter by a peculiar albuminous principle—pancreatin.

The pancreas, a racemose gland, with its various channels opening into a duct, which opens with the common bile-duct into the second part of the duodenum, a channel loaded with septic organisms, and liable to acute, subacute and chronic inflammation.

The essential and immediate cause of pancreatitis of these various forms due to biliary infection, partial death of the liver and spleen, gall-duct, biliary and pancreatic lithiasis; ulcer and cancer of the stomach; calcareous degeneration of the gland. The peculiar vital depression, indispensable to produce any of the three grades of inflammation, may originate either directly in the blood or be due to a metasasis from the liver, stomach or spleen—the gall-duct loaded with gall-stones and gastroduodenal catarrh.

When there is obstruction of the common gall-duct by calculi, the pancreatic duct may be subject to backward pressure, which often lasts for months and years. All morbid conditions of the pancreas have few pathogenic signs, and a correct diagnosis is difficult, even after a careful study of the history, mode of onset, brown-coated tongue, offensive breath, con-

stipation, fat in the stools, delirium, collapse; for the pancreas sympathizes and participates in all disorders of the stomach, liver, spleen. Rectal treatment has met with most success; enemata of olive oil and turpentine; of infusion of linseed and resorcin, peroxide of hydrogen. The only internal remedies reliable are periodate aurum, thrice daily, with the ethereal extract.

PAPILLOMATA OF THE URETHRA.—Tumors of the urethra are of infrequent occurrence—papilloma, polypus, carcinoma occasionally occur. Papilloma is the most common in all parts of the canal near the meatus, as well as pretty well down, and by the careless physician are often mistaken for stricture, as there is an obstruction of the flow of urine, causing the stream to be either forked or twisted, or scattered.

At the initial stage there is apparently in its causation all the symptoms of a gonorrhea—pain, heat, profuse mucopurulent discharge, which subsides, leaving the urethral mucous membrane studded over with papillary growths, variable in size, from a pin's head to a cherry stone.

Extraordinary success attends the cure of these cases with the oil of thuja—prescribing it both internally and applying it locally; ten to twenty drops added to water thrice daily; filling a catheter charged with the oil and inserting it, then gently withdrawing it, depositing it in the urethra, completely successful.

PAPOID.—This drug has now been before the medical profession for a good many years, but owing to its high price it has made little headway. It is prepared in a powdered form from the juice of the *Carica papaya,* or melon tree, and its manufacturers claim it will supersede pepsin and pancreatin, because it digests equally well in acid, alkaline or neutral fluids, and will dissolve 1,000 times its own weight of fresh blood-fibrin. Its action is not retarded but rather increased with an antiseptic.

It is of great efficacy in the gastric catarrh of children, with an immense growth of the sarcinæ ventriculi—in cases in which there is a loss of appetite, languor, pasty complexion, loss of sleep at night and irritability during the day, where there are frontal headaches, absorption of toxins and the urine is loaded with lithates. If this condition is permitted to exist, emaciation takes place, there being neither digestion nor assimilation. One grain of papoid with five grains of soda bicarbonate after

every meal, with four-drop doses of matricaria before meals. In this way the sarcinæ are wiped out, perfect digestion commenced, and absorption of the nutritive elements promoted.

Apart from the use of papoid in all forms of dyspepsia, it is an exceedingly valuable agent in cancer of the stomach, as it rapidly digests all adventitious structures administered in the form of a tabloid, "Papoid et cocain," in alternation with the conium pill. Numerous cases of cancer of the stomach have been cured by those remedies.

It is in cancer of the rectum that we obtain the most brilliant results. One dram of papoid in rectal suppository of considerable size introduced, after the bowel has been thoroughly emptied and cleansed, will digest any variety of malignant growth with an alacrity equal to its hardness.

From these and other facts it would appear that the germicide properties of papoid are immense.

If all dyspeptics would, the moment they experience pain, acid eructations, bloating, put themselves under the use of the papoid et cocain tablets, cancer of the stomach would be a very rare malady.

PARALYSIS.—Palsy, loss of motion and sensation, one or other, or both; general or local.

The causes are numerous, but the origin of every case is either congestion or anemia.

Complete paralysis of sensation and motion of the entire body constitutes death.

Hemiplegia, paralysis of one-half of the body longitudinally, is either due to effusion on the base of the brain or to a patch of white softening; paraplegia, paralysis of one-half the body, transversely, below some point in the dorsal or lumbar portion of the spinal cord, due either to congestion or anemia. Besides these there are various forms of local paralysis, induced by overwork; poisons like lead, mercury, tin, copper; to the toxins of disease germs.

There are general principles which should be observed in the treatment of all cases; if due to congestion, dry cupping, active secretions, iodide of potassium, alteratives, like saxifraga, periodate aurum; if due to anemia, treat with cinchona, coca et celerina, avena, kephalin, electricity, massage.

Local paralysis due to the absorption of lead, mercury, copper, iodide potassium internally in the comp. saxifraga unites with the metallic agent and with the aid of the sulphuret of po-

tassium baths eliminates it from the body. Paralysis due to the toxins of the pathogenic microbes, syphilis, typhoid fever, rheumatism, diphtheria, require special remedies, as well as states due to auto-intoxication from the cadaveric alkaloids due to the decomposition of organic substances within the body.

The profession at large imagines that the ordinary indirect cause of this disease in advanced life is the habit of drinking too much stimulant in early life and middle age, and thereby causing degeneration of the arteries, so that when in old age they should be elastic, as they usually are in those who have always been temperate, they get fatty and weak, and give way before the increasing irregularity and tension of the circulatory system. Paralysis may be occasioned by pressure of some tumor on particular parts of the brain, the spinal marrow, or the nerves; by poisons, the long-continued use of sedatives, local injuries, the sudden suppression of profuse and habitual evacuations, and whatever tends greatly to relax or enervate the system. It is caused by apoplexy, disease of the brain, such as abscess, softening, or inflammation and cancer of the brain. It may also be caused by a clot of blood in the arteries of the brain. The symptoms, if due to rupture of a blood-vessel on the brain, come on suddenly. The patient may go to bed apparently quite well, and in the morning it will be noticed that his speech is inarticulate, his face drawn to one side, and that he cannot move one leg or arm of the affected side—generally the left. After a time the eye remains open, food accumulates in the cheek, the tongue is pushed out to the paralyzed side, and very often taste is lost in the front two-thirds of that organ. When the disease comes on slowly, with numbness and tingling in the feet and legs, there is more hope, if not of recovery, at least of prolongation of life. When any vital part, such as the brain, heart or lungs, is attacked, it soon terminates in death. The symptoms which precede an attack are very similar to those which precede an attack of apoplexy, the most frequent complaint being that of numbness and a pricking sensation throughout a whole limb or affecting only a part of it, such as a finger. Such symptoms, where there is a predisposition, or if the person is of advanced age, ought never to be neglected.

Another portion of the profession says that if there were no syphilis there would be very little paralysis; this is an established fact—*no syphilis, no paralysis.* Legislative measures

are imperatively demanded to check the spread of a potent poison to the nervous system.

An inheritance of syphilis gives us infantile paralysis, a most common malady, in both an acute and chronic form. The judicious administration of periodate aurum, which annihilates the microbe subsequently results in apparent recovery, but usually a victim of convulsions, retarded dentition, with later on impaired mental power of toxic origin.

Later in life aphonia; this frog-in-the-throat, termed by some paralysis of the larynx, which implies paresis of one or more muscles, a toxin acting on the central origin of the laryngeal nerves, effecting a biochemical change on the lower neurons and the muscles they subserve—it may be due to auto-intoxication or toxins of disease germs.

A state, pathological, in which periodate aurum effects decided results, and should in all cases be alternated with saxifraga and kephalin granules. Paralysis of the uvula, and other muscles concerned in deglutition, by the toxin of the streptococcus of diphtheria, is best treated by the glycerite of sulphur alternated with matricaria.

PARALYSIS AGITANS.—Shaking palsy, as it is commonly called, or more properly paralysis agitans, is exclusively a disease of old age, and rarely in any way shortens life. The first indication of trouble of any kind is a tremulousness of the hands, which becomes generally increased after a greater or less time, so that even the head bobs and shakes, and the whole body is agitated. When the patient is seated his body is bent over, his chin touches the chest, and his face wearing an intensely dejected expression. When he attempts to walk his body pitches forward, so that he is obliged to run to keep his balance. In one form of the trouble (that due to hardening or sclerosis of the spinal cord and brain) the movements are increased with voluntary efforts, so that the more the will is exercised to control them the more disorderly will be the movement. If he carries a glass of water to his mouth, it is apt to be shaken so violently that the contents will be spilt. As a rule, the tremor ceases at night. Usually in seven years from its incipiency it terminates in paralysis and imbecility.

Passiflora and c. p. solution of spermin are the only remedies to ameliorate.

PARAPHIMOSIS.—Constriction of the foreskin behind glans penis, great swelling, danger of gangrene. Try the same

measure as laid down for phimosis; those failing, try compression of glans penis with ribbon and pull the foreskin over. All failing, constriction to be released with four or five incisions on superior aspect.

PARASITES (Worms).—Many diseases are communicated from animals to man and *vice versa.* Recent researches have tended to elucidate and confirm this idea. The unity of human and animal tubercle bacillus has met with universal credence; so with the streptococcus of diphtheria, which can be communicated by animals to the human race; so with parasites, which are often transmitted.

Tape-worm, or tenia, is a term employed to designate any worm of the group known as cestoid worms, of which there are 250 distinct forms. Of that number some eight or nine are found in the human body, which are termed true tape-worm, from the fact that they possess a distinct head, furnished with four discs (suckers), and also with a proboscis placed on the centre ridge of the median line.

The common tape-worm, *Taenia solium,* derives its name from the idea that it is always a solitary worm; but this is not invariably the case, as there are often several—an old one and one or more young ones starting into active existence.

The ordinary length of a tape-worm is from ten to thirty-five feet; its breadth at the widest part one-third of an inch, and its segments or joints from half to three-quarters of an inch, which constitute an ovarium containing from 500 to 800 or more eggs, the one-six-hundredth part of an inch in diameter.

The head is very small and globular, about the size of the head of a pin, with black pigment matter ingrained in it. It has four circular sucking discs, in front of which is a conical proboscis, armed with a double crown of hooks, from twenty-two to twenty-eight, in each circular row. The head is succeeded by a very narrow neck, nearly an inch in length, which is continued into the anterior or sexually immature part of the body, in which traces of segmentation first appear in the form of fine, transverse lines, which are gradually replaced by visible joints. The joints or segments represent the body, and each mature segment contains both male and female organs of generation. It is only in the alimentary canal of man and some other animals that a tape-worm can attain to sexual maturity, and in all cases the eggs are fecundated before being discharged.

The expulsion of the eggs takes place by the mature segments separating from each other and passing out of the body with the evacuations, and then undergoing decomposition, and thus setting the eggs free; or the mature joints may undergo disintegration within the intestinal canal, and thus liberate the eggs, and permit of a new worm being hatched out alongside of the old one. As a rule the mature segments are usually expelled from the human bowel at the rate of six or eight per day, and the liberated eggs, if heat and moisture be present, maintain their vitality for years.

Those eggs, in a cesspool, or as a manurial product, may be spread on grass or early vegetables, or they may enter our drinking-water in the form of sewage, and are thus likely to find their way into the human stomach again, when fertilization will take place; or a pig roaming around may come in contact with these eggs in or on food or water. The eggs or embryos, on being transferred to the stomach of the pig, escape from the shell and bore their way into the living tissue of the animal, where they rest to await any further transformation. An animal thus infected becomes measly, its flesh constituting measly pork. Pigs, of all animals, are most afflicted with measles from a thousand other sources, and it is supposed 90 per cent of all those animals are infected; and there is no doubt that the adult form of the worm enters the human body most frequently in the cysticercus of measly pork; less, much less, infrequently does the larval worm find its way into the body by swallowing the eggs on green vegetables, choice salads, water filled with sewage from ponds, canals, rivers into which the *debris* from human habitations is thrown.

One individual suffering from tape-worm may infect a whole neighborhood, and one slaughtered measly hog may spread the disease far and wide, not only to those who eat its flesh, but to those who handle it in any form. It is true boiling water destroys its vitality, but edibles are not always subjected to such a heat, and all human beings whose vital forces are depressed are very liable to have the eggs of this parasite hatched in their intestines.

With regard to symptoms there may be none; usually a mature tape-worm in the intestines may give rise to vertigo, ringing in the ears, headache, chorea, epilepsy, indigestion, emaciation, prostration, salivation, itching nose and anus, capricious appetite, variable forms of colic, palpitation, and, if in the brain, death. The appearance of part of the worm in the stools is characteristic.

There are a few remedies for tape-worm that are reliable.

Kousso, the dried flowers and immature fruit of the *Brayera anthelmintic,* an Abyssinian tree. The dose is half to one ounce of the powder in half a pint of water. The larger dose is to be preferred.

Before giving this or any other remedy for tape-worm, the patient should eat nothing from noon of one day until next morning, when the half pint of water with the kousso should be taken. If at the end of six hours no movement of the bowels has taken place, an active aperient should be given; generally kousso requires no purpative.

Another good remedy, quite efficient, is the ethereal extract, an oleoresin of the male fern, administered in gelatin capsules.

A still more excellent remedy is the bark of the root of the pomegranate; best given in decoction, two ounces to the pint, and that usually makes a dose. The alkaloid pelletierin is not thought so certain as the infusion.

Kamala, in doses from one to two drams suspended in syrup, is given; often acts drastically, and may cause nausea and vomiting.

Another good remedy is the pumpkin seed, two ounces of the seed freshly crushed in a mortar, with water, to form an emulsion, taken at a dose.

The oil of turpentine is often of utility, but apt to produce unpleasant symptoms.

Valdivine, a glucoside extracted from kousso, kamala, male fern and pumpkin seed, put up in the form of capsules, has met with success.

Papoid, in twenty-five grain doses, has succeeded in digesting the entire worm in the intestines.

The ascaris lumbricoides, common round worm, seven to nine inches in length, infests the small intestines; oxyuris vermicularis, or thread-worm, inhabits the lower bowel.

Often a great variety of symptoms attend the presence of these parasites, eruptions, irregular appetite, cough, bloating of the abdomen, irritation of the orifices of the body, convulsive seizures, the presence of the worms in the stools.

The best remedy for their annihilation is santonin, in the form of a lozenge, one to two grains at bedtime, followed next morning with an aperient.

Thread-worms are only successfully treated by means of an enemata, solution of boroglycerid with dioxide of hydrogen, infusion of golden seal and chloride of sodium.

PARESIS.—A very common malady among both men and women who exhaust their reproductive organs by sexual excesses. Its appearance early in life, and its greater frequency are worthy of note. Ten years ago it was confined to middle-aged persons, chronic in its nature, characterized by volitional tremor, but nowadays it is quite common and present in the comparatively young.

After death there is visible on the brain and cord sclerosed portions, consisting of a growth of connective tissue which destroys the medulla of the nerves. This is somewhat different from the effects produced by the toxins of syphilis and diphtheria, which attack the nerve cells, nerve fibres in the brain, producing chronic progressive degeneration of the motor cells.

On our streets mark the young man or woman guilty of excesses. Their neurasthenia is visible in every movement; loss of memory, impaired vision, noises in the ears, vertigo, scanning speech, with spastic weakness of the legs. Note him or her, a candidate for paresis, the effects of self-abuse.

This is usually a disease of advanced life, in which there is a deposit of calcareous matter on the walls of arteries, making them brittle and easily ruptured; in other words, as life progresses there is increased assimilation, decreased elimination in all cases of paresis or cerebral palsy.

In any case we shall find that every activity of the body, both voluntary and involuntary, has contributed its quota to stimulate and irritate the brain for years. The patient has lived a sedentary life, he has indulged in large quantities of rich and highly seasoned food, artificial excitement, unhealthy emotions, worry, meretricious amusements, has occupied his time with matters which lack utilitarian purpose or meritorious object; in short, has led a life of high pressure or one which is unreal and full of fictitious goals. Such lives sap the stamina of the brain and destroy the inherent vitality and resistance of the brain cells. Alcohol, narcotic drugs, indigestion and constipation do what they can to favor chronic congestion of the brain.

The cerebral blood-vessels yield to abnormal pressure, enlarge their calibre. The head is hot, feet cold, brain becomes chronically congested, the patient usually lives in an atmosphere of worry, fret, excitement, and in the prime of life succumbs.

There is no remedy that meets the indications so thoroughly as passiflora incarnata. All such cases should be promptly placed on it, and so held, as it is a prophylactic to such states.

This peculiar affection of brain and spinal cord is now, since our organic extracts have been very thoroughly tested, amenable to treatment.

Thyroid extract is indicated in every case. A sufficient quantity should be administered to stimulate the emunctories of the body and keep the pulse at 75 or 80. Its action is soon visible in the abolition of tremor and a regaining of strength.

Ozonized comp. saxifraga in alternation with arsenicum. aurum to correct the brain defect—the tendency to degeneration of the motor cells—they act well and promptly.

As brain reconstructives, rebuilders of lost vital force, no remedies can excel c. p. spermin solution and glycerite of kephalin.

PARTRIDGE BERRY.—Comp. syrup partridge berry is undoubtedly the most important therapeutic agent that has ever been presented to the medical profession for the treatment of diseases of the female reproductive organs. It possesses most extraordinary curative properties in all devitalized states of the uterus or its appendages, aids a renewal of life in all its weakened parts. It is the great uterine vitalizer and tonic; possesses the peculiar property of evolving nutritive organic elements in the complex uterine system, and proves eminently beneficial in all cases where the functions of the uterus, or the ovaries, are either dormant or deranged. In atrophy its exhibition stimulates growth; in all catamenial disorders it is the great rectifier; in all chaotic states incidental to pregnancy it overcomes nausea, sickness, prevents miscarriage, wipes out all tendency to convulsions and promotes painless parturition. Unquestionably the best remedy we have when puberty is retarded or sterility is present.

Indicated in all states of uterine debility or weakness.

When administered in dysmenorrhea, conjoined with a cocain suppository, instantaneous relief of pain; in menorrhagia, alternated with the crayons of the sulphocarbonate of zinc, a prompt arrest of hemorrhage; in every form of displacements, used in conjunction with the nymphæ odorata pastils, an excellent result is obtained; in metritis, endometritis and ovaritis, with cocain suppository and boroglycerid pastils, speedy subsidence of inflammatory action; in induration, ulceration of the cervix, crayons of jequirity, and ozonized pastils; in uremic eclampsia and uterine cancer, passiflora incarnata pastils most effective; in leukorrhea, sulphocarbonate zinc pastils. In all

cases, to obtain the best results possible, the comp. syrup of partridge berry ozonized should be alternated with the ozonized aletris farinosa. The two best uterine tonics and restoratives in the materia medica.

Dose: From one to two teaspoonfuls three or four times a day.

PASSIFLORA INCARNATA.—The great sympathetic nerve, the supposed abode of the soul, certainly of the emotions, desires, affections, passions, is in some men merely rudimentary, stunted in its development. According to its vigor and size rests man's moral responsibility; by that he must be gauged.

In either race or sex, or in individuals in whom this soul brain is dwarfed, there is less liability to grave and fatal maladies than in those in whom it is excessively developed. A whole-souled man, with a large, great sympathetic development, extensive ramifications of this nerve over the larynx, heart, lower lobe of the right lung, is very prone to suffer a partial death of those organs from very slight shocks; hence acute laryngitis, carditis, pneumonia are common.

When remedies enter the body they find their way into the blood and are distributed to every organ and tissue, and these structures have a selective choice, and if the medicament has an affinity and is of the proper dose, it will modify, influence that organ or tissue for good, for a renewal of life. For example, belladonna soothes the laryngeal nerves and the optic plexus; strychnin, the spinal cord; celery, the kidneys; ambrosia, the sexual sense in the base of the brain; oxygen vitalizes the respiratory centre; passiflora incarnata, matricaria and protonuclein, the great sympathetic nerve. Hence these three remedies are our best weapons with which to combat laryngitis, carditis and pneumonia.

True laryngitis and carditis are not very common, but the great prevalence of pneumonia is well recognized.

Cardiac vigor is of great importance, and there is no drug in the materia so valuable in maintaining that as comp. matricaria, which, when given in full doses, increases and stimulates the respiratory centre.

All coal-tar derivatives should be avoided, as they paralyze the heart. The mortality from this source has been excessive. Whatever remedies are selected by the physician in charge, veratrum viride, quinine, let him give passiflora with a liberal

hand. It is invaluable, for it gives a decided tonic action to the heart, upon the damaged lung and the incidental prostration. From one to two, even three, teaspoonfuls can be given in pneumonia without any deleterious influence. True it affords refreshing sleep, easy breathing, a general feeling of comfort.

It causes the cardiac arteries to dilate and admit more blood to the substance of the heart; and the more completely the heart fibres are nourished it turns the scales in favor of recovery.

Passiflora acts well on the organs of digestion and assimilation, always promoting an excellent appetite.

Give passiflora a trial all along the line of the great sympathetic, in chorea and epilepsy, as well as the organs enumerated.

Pasiflora is a sedative to the great sympathetic, procures sleep in typhoid fever, arrests convulsions in children, in pains after parturition. The dose varies with the peculiar idiosyncrasies of individuals and their susceptibilities. Sedate the nervous system, sleep is procured; passiflora is a true cerebro-spinal sedative.

PASTILS (*Ozonized*).—They are of the greatest efficacy in all uterine diseases, and are an invaluable boon to both single and married ladies if they are suffering from any disease of the womb. They positively cure whites, falling and ulcerations of the womb, induration, granular erosions, and catarrh of its neck; all forms of painful menstruation, neuralgia, dragging in the back, and every morbid condition incidental to that potent organ, the motive power of the universe. They also overcome the condition of sterility and impotency, impart great tone, strength and vigor to the sexual organs. Dose: Insert one in vagina every night. Before so doing cleanse vagina by fountain syringe charged with tepid water and castile soap.

They should be inserted when in the recumbent position. It should be inserted up the vagina as far as possible with the finger and allowed to remain; shortly after its introduction it will dissolve and come in contact with the diseased parts. The vagina should be washed out the following morning.

Discontinue the use of the pastils during the menstrual period; when the menses disappear resume their use again, until the affection is cured for which they were originally used.

PELLETIERIN.—The alkaloid of pomegranate-root bark, is an anthelmintic and promptly kills the tape-worm when administered. It should not be administered to children; and to delicate ladies about half the dose should be given.

Directions.—The day before taking it patient should go on a milk diet, and the evening before a copious injection of hot water.

The next morning the full dose of pelletierin should be given in a glass of water sweetened.

One hour after the pelletierin a purgative must be administered, and if it does not operate in one hour another administered with an injection of warm water with 30 grains of sulphate of soda.

PEPSIN.—Pepsin is a light brown-yellow powder prepared by drying under 100 degrees F. the fresh lining of the stomach of pig, sheep or calf.

Therapeutic Uses and Action.—Pepsin is one of the important elements of the gastric juice, reducing the albuminoid and protein constituents of the food to a fit state for absorption. Besides it is a stimulant to the gastric mucous membrane. Useful in all cases of atonic dyspepsia, anemia, diarrhea, malnutrition.

SCALE PEPSIN.—A solvent to diphtheritic membrane.

PERICARDITIS.—Inflammation of the pericardium, due to the amylobacta irritating the pericardium.

Diagnosis rests upon the presence of rheumatism and gout; by the sharp catching pain over the heart, friction, sound, synchronous with heart-beat until effusion takes place, when there is an increased area of dullness and sounds of the heart muffled; generally associated with rheumatism and gout; uneasiness and pain about the region of the heart, with chills, fever, palpitation, irregular pulse, cough, attacks of fainting, edema of extremities and puffing of the face.

Administer same remedies as for rheumatism (which see), with large doses of passiflora in stimulants over region of heart and Dover's powder should be administered in sufficient doses to relieve pain.

In all forms of heart affections, tobacco, sexual congress and stimulants must be avoided; strict rest of mind and body; no running, jumping or climbing. Place irritating plaster over the heart and occasionally concentrated ozone.

PERIOSTITIS.—Irritation, inflammation of the covering of bone is easily recognized by the deep-seated, sharp lancinating pain; the pain is most intense over bones with pink marrow, as in the fingers, constituting whitlow or felon; over the ends of the long bones.

The microbe present here is analogous to the disease germ of pleurisy or peritonitis (which see).

Unless the microbe is either sterilized or killed it forms nodes (nests) on the surface of the bone, or it strips the bones of its periosteum and it withers and dies.

In all cases of periostitis an effort should be made to sterilize or kill the germ. Various germicides are effective, such as padding the germ-smitten part with either the oil or tincture of lobelia or veratrum, or ozonized iodine, peroxide of hydrogen, citrine ointment—if a liquid, it should be kept constantly wet.

PERITONITIS (*The Streptococcus*).—In all inflammations of serous membranes there is a streptococcus evolved of the most deadly character, most active and malignant in puerperal peritonitis. True the septic character of the germ is modified by various pathological conditions.

A fractured rib, an intra-abdominal wound, a piece of mesentery excised, a spot injured, or disease of the serous tissue favors the evolution of the germ.

Narcotism of the higher cerebral areas, with opium or its alkaloid, deprives the microbe of its pabulum and renders the tissue impregnable to the toxic action of its ptomains, together with the local application of ozonized turpentine over the entire abdomen; if not that, then peroxide of hydrogen and glycerin most effectually sterilizes the streptococcus.

The rapid excretion of the most deadly ptomains by the germ forbids delay. Human life is too sacred to permit of experiment with such haphazard drugs as exalgin or antifebrin.

The injection of the blood of a patient afflicted with peritonitis into any mammalia gives rise to fatal peritonitis.

Opium, alternated with passiflora incarnata; locally over the abdomen ozonized turpentine.

PERMANGANATE POTASSIUM.—Emmenagogue, kills microbe of snake-bites and the fungus of diabetes. The best preparation of manganese. Dose: One-half of one grain in water.

The powerful oxidizing properties of permanganate of po-

tassium have rendered it valuable as an antiseptic and disinfectant, but its properties as an antidote for various poisons are not so generally known. It has been prescribed with success by physicians in the case of phosphorous poisoning, which it transforms into orthophosphoric acid. It has been used for oxalic and hydrocyanic acids and their salts as well as for strychnin and other vegetable alkaloids. It has been employed in the case of poisoning by opium and for serpent bites and those of venomous insects, spiders, etc.

PERTUSSIS, OR WHOOPING-COUGH (*The Micrococcus*).—An affection due to the admission of a micrococcus by the respiratory mucous membrane, which enters the blood, where it breeds, and when fully formed makes nests in and around the cervical portion of the cord and medulla. Once the germ has become fully localized, it throws off spores every hour or two, incidental to which are immense ptomain excretions, which produce an embolic condition of the blood, and often clots in heart, lungs, brain. The micrococcus, if let alone, will take from eight to twelve weeks to use up all the elements of its nutrition which exist in the body and then die.

Its diagnosis is easy: first indication languor, fretfulness, symptoms of a cold, periodic and spasmodic closure of the glottis on a deep inspiration, which, if long-continued, gives rise to an impending sense of suffocation, convulsions, attacks often terminating in vomiting.

A microscopical examination of the breath, saliva, expectoration and secretions of all children suffering from pertussis, exhibits elliptical cocci, mycelia, micrococci resembling the figure 8.

The microbe bears culture well, and is pathogenic of the malady. Cultures injected or fed to animals reproduce the original disease in all its virulence. It is a most active ptomain eliminator; to this toxic principle is due all the embolism, complications and fatality of the disease.

We hereby give the opinions of eminent members of the profession on the subject:

The mycelia of whooping-cough can be isolated from the tonsils (which is an open door for the ingress of all disease germs), from the uvula, fauces and larynx, prior to and during an attack; it rarely enters the blood-plasma twice, for one attack usually uses up all the material upon which it feeds.

An attack, in its initial stage, resembles an ordinary catarrh

—cough occurring in paroxysms. A deep inspiration is followed by a short, successive, jerky cough, then the characteristic crow or whoop. Paroxysms are usually followed by expectoration of tenacious mucus loaded with germs, or vomiting. During paroxysm face is either flushed or dusky, eyes suffused, often very red; veins of neck and face swollen; with an impending sense of suffocation; bleeding from the nose, mouth, ears not uncommon. The germ and its toxin in the blood give rise to embolism.

The frequency and intensity of the coughing fits or paroxysms are supposed to be due or in proportion to the activity of microbic growth on the fauces. There are many complications and much danger attending the presence of this germ in the body. The complications and dangers are embolism, clot in heart and brain, bronchitis, pneumonia, convulsions, emaciation, gastritis, etc.

With favorable surroundings and no treatment this microbe takes two weeks of incubation, two weeks to fully mature; four weeks of full adult activity, in which period all the elements upon which its nutrition depends are completely used up and the blood thoroughly drenched with its toxin; and two weeks more are supposed to be necessary for convalescence.

In the correct treatment of this malady all old ideas, methods and remedies must be discarded, and a new era established, whereby infantile suffering and mortality must be blotted out.

In effecting this the physician must realize that he has a most tenacious microbe to deal with; one of prodigious capacity of growth and dissemination, so much so that all clothing, furniture, carpets, walls, everything in the apartment and some distance beyond are literally covered or saturated with it. So the new treatment is based upon the complete annihilation of the germ. This can only be effected by placing the little patient and keeping it in a bactericidal atmosphere. Ozone has been tried, effective, but not manageable; so with oxygen, so with sulphur, so with vaporizing or burning germicides.

The up-to-date method is an atmosphere of formalin. Add one or two tablespoonfuls of formalin to one quart of water; have towels sufficient ready to introduce into it so as to take it all up without dripping; simply hang them up, here and there, in the apartment in which the child is domiciled, till they are dry, and resaturate again and again. Keep this up for about a week.

Inside of twenty-four hours not a living germ or spore

can be detected in either the expectoration, breath, or mucus from the tonsils, uvula, fauces.

The size of the apartment, age of the child, will regulate the physician as to its strength, whether one or two tablespoonfuls.

This procedure kills all the microbes in the respiratory tract, so the evolution of toxins are cut off; but as the germ had effected an entrance, there is always some damage done; so it is well to administer every one, two, or three hours of the ozonized syrup of Tolu, from half to one teaspoonful doses; it acts as a scavenger to the diseased blood, and allays every vestige of irritation of the respiratory tract.

It is our best remedy without formalin; away ahead of belladonna, bromide of potasssium and all specifics.

This pathogenic microbe has a local habitat in the respiratory mucous membrane (laryngeal); its presence and the products of its activity give rise to a catarrhal condition of the tissue in which it is imbedded.

This microbe fabricates a toxin which, when taken up with the circulation, acts as an irritant poison to the nervous system, especially acting upon the respiratory and vagal centres, rendering them extremely sensitive and irritable.

The catarrhal stage is one of microbic activity, the whoops, the spasm, due to the poison generated by the germ.

The correct treatment of pertussis is to destroy the germ, the factor of morbid action, and neutralize the effect of the poison; this is best effected by either the ozonized glycerite of sulphur or syrup of Tolu; either or both completely antagonize the effect of the poison.

In addition to the administration of either or both of those remedies, I have found it good practice to lessen the sensibility of the peripheral terminations of the afferent nerves from the respiratory and gastric mucous membrane—to keep irritation from being carried to the medulla—by rendering the parts insensitive. This is best effected either by cocain dissolved in peroxide of hydrogen or in ozone et chlorine, making a 1 per cent solution. This can either be painted on the tonsil, uvula, fauces, or, better still, sprayed.

It should be just strong enough to benumb the sensibility, have a slight paralyzing action on the vagal and respiratory centres, or should stimulate nerves antagonistic in their action to those involved. This treatment is a step in the right direction; it renders the breeding ground unsuitable to its growth and sporulation; bacterial activity ceases.

The removal of the patient daily, or as frequently as possible, to a distance, and while absent the thorough disinfection of the apartment by burning sulphur, is a most valuable aid in preventing the ingress of germs lying dormant on furniture and clothing.

Whooping-cough is due to the presence of a pathogenic microbe on the mucous membrane of the larynx and the pharynx, and its migration to the inner ear. Highly contagious and infectious malady.

The faculty earnestly indorses the administration of comp. syrup Tolu, peroxide of hydrogen, one-quarter grain doses; sulphide calcium, antiseptic sprays, with the persistent exposure of the vapor of formalin in the apartment in which the affected child is domiciled.

In addition to this successful treatment the doctor has the ears of all the affected syringed out, morning and night, with tepid water, followed by peroxide of hydrogen; then he paints on the meatus and membrana tympanum with jelly of violets. The result of this new addition to recent modern treatment is in almost every case the patient is benefited and entire relief of the whoop.

It would seem that the mycelia excites irritation, inflammation of the nerve filaments which are connected with the root ganglion of the vagus, and so stimulates that nerve in all its branches.

The anesthetic action of the jelly of violets on the ear, laryngeal nerves and mucous membrane completely wipes out both spasm and whoop and any trophic lesion that may exist.

It has been successful in many hundred cases.

Whatever remedy kills the microbe most effectually is the one to cure this affection, cut it short by annihilating the germ. Many germicides have recently been brought forward which have retarded and checked the evolution of microbic growth. The age at which the germ puts in an appearance has much to do with a cure. If old enough, painting the tonsils, uvula, fauces, with jelly of violets thrice daily completely wipes it out in a few days.

The removal of the infected one for a few hours, and while absent disinfection of the apartment with burning sulphur is not to be overlooked, or better still is the exposure of a solution of formalin in saucers around the room, so that the patient can live at all times in a germicidal atmosphere.

An excellent remedy for all cases, to be administered inter-

nally, is the ozonized syrup of Tolu—a common-sense remedy, never failing in its action. Mothers and nurses all agree in asserting that there is an immediate improvement after the first dose, and by giving it at stated intervals and in proper doses. cough diminishes, expectoration facilitated; paroxysms grow less in length and intensity, only occurring at long intervals, but all the time gradually but surely abating.

If this simple treatment be carried out the morbid condition does not last but a few days, and is much superior to the bromoform treatment which is so popular.

The micrococcus of whooping-cough is a great factor in infantile mortality, for in the process of growth it creates a toxin, which causes embolism.

Bromoform and the bromides are incapable of antagonizing this poison. The most effective method of cure, that is, of annihilating the germ, is by adminstering ozonized syrup of Tolu in small but oft-repeated doses, which completely neutralizes the poison. This treatment can still be rendered more efficacious, if the child is old enough, by once or twice daily painting the tonsils, uvula and fauces with the ozonized jelly of violets. This is the most reliable of all remedies.

I never neglect thorough disinfection of the apartment in which the patient is domiciled. Spray the room with formalin solution. It will destroy every germ, penetrate every crevice and crack without affecting any article deleteriously. It is away ahead of sulphur.

Ozonized syrup of Tolu as the internal remedy; as auxiliaries, painting the tonsils, uvula and fauces thrice daily with jelly of violets, at the same time inserting one drop in ear, and creating in the apartment an atmosphere of formalin; this is effected by dipping sheets in the following solution: water, one gallon; formalin, four ounces. Mix. Having one saturated hang it up, and as soon as dry remoisten again and again.

This form of treatment is a practical cure for every case of whooping-cough. With it there are no complications, but at once a remarkable amelioration of every symptom, cough and paroxysms lessen in frequency, violent sickness subsequent to their appearance disappears. This treatment not only facilitates the prompt destruction of the micro-organism, a neutralizing of its toxin, but complete eradication of the malady. In a few days, in a week, there is no germ to be found; consequently there is no cough, no bronchitis, no pneumonia to deal with.

The microbe of whooping-cough is found in the tracheal

mucous membrane, in the expectoration; it is a protozoon, resembling an ameba, multiplying by division and spores. During the convulsive stage they are seen as round, ovoid, shining bodies.

In the entire list of disease germs there is none which have such a precision of incubation, growth and termination as the mycelia of whooping-cough, and of late years, since neurasthenia has been implanted into the modern child, a fatal malady.

Various attempts have been made to exterminate, to destroy the entire brood.

The most recent is a liberal exhibition of the ozonized syrup of Tolu, painting the root of the tongue, tonsils, uvula, fauces, with jelly of violets thrice daily (this can only be done when a child is old enough), and a continuous fumigation with formalin. If this latter is properly performed we have an instantaneous cure. We do not indorse this method. This would be better: The child is to be taken into a room that has been fumigated with formalin, then to put on clean clothes which have been fumigated by the same article; in his absence his other room fumigated, then saucers are to be placed all around in which formalin is placed, that the child will live practically in an atmosphere of formalin, in which no microbe can live. The method is a success. Some precautions are necessary: The formalin must be procured from some reliable chemical manufactory; not from some patented apparatus, introduced as a distinctive swindle; then the quantity introduced into the saucers must be such that when it volatilizes it must not irritate the respiratory organs. We would therefore caution all physicians to keep their cash, not to be humbugged into purchasing useless machines for its generation.

Attempts to cut short every case of whooping-cough by the inhalation of some germicide are a success. Sulphur fumigations have done good service. A large tablespoonful of formalin to a quart of water, exposed in half a dozen saucers in the apartment in which the child is domiciled, does better service, as every disease germ in that room is killed as if by enchantment. No need of changing either the room or any article in it, for the child practically lives in an atmosphere of ozone.

A decided, practical cure; mothers and nurses agree that an immediate improvement takes place. Cough is lessened, paroxysms disappear, expectoration is easy, there are no complications. It should be renewed every morning. If any internal remedy be needed, give ozonized syrup of Tolu.

PHENACETIN.—This is a slightly reddish, inodorous and tasteless powder, soluble with difficulty in water, a little more soluble in glycerin, still more so in alcohol; it is insoluble in acids, except glacial acetic.

Though absolutely tasteless, it is most conveniently administered in capsules, this method admitting of the most accurate dosage.

Used in pyrexia, neuralgia, etc.

The most satisfactory dose for an adult is eight grains, which can be repeated.

PHIMOSIS.—Constriction of the prepuce anterior to the glans penis, often congenital; later in life due to irritation, such as from the natural cheesy or sebaceous secretion, the germs of gonorrhea, masturbation. Try first continuous application of hot water, with lobelia or belladonna or both, lotions of gelsemium.

Inject belladonna under foreskin, try all means possible. All failing and danger of gangrene, slit it up, that is, perform circumcision.

PHLEBITIS.—Inflammation of the veins, common among washerwomen washing clothes of syphilitic patients or from cloths or discharge of parturient patients coming in contact with the skin through some scratch or abrasion. There is great pain along the course of the veins, which become thick, cordy, excruciatingly painful; rigors; fever of an irritative or nervous type.

Blunt impressibility of nervous system with conium pill. If vein is thick, cordy, thrombosis has taken place. Apply leeches, closely, so as to drain off the coagulated, germ-smitten blood; then paint with creosote freely, or apply peroxide of hydrogen, echinacea, and subsequently keep applied linseed meal; poultices made of glycerin, wild indigo, carbolic acid, charcoal and capsicum; change every three hours; yeast, ozone water and other germicide remedies internally, with nourishment and tonics.

PHLEGMASIA DOLENS.—Phlegmasia dolens, or milk leg, is due to the micro-organism bacteria. During parturition, especially if labor has been severe or prolonged—a condition in which the vital integrity of the uterus has suffered; or it may be a case in which ergot has been given, perhaps rather freely

or injudiciously, which not only causes contractions of the uterus, but in itself supplies the blood with bacteria, thus engendering embolism; or it might be a uterus contracted firmly on a placenta or clot, which squeezes diseased products into sinuses of left side, which is the weakest, causing irritation of ovary and poisoning of veins of the left leg, coagulation of their contents; embolism takes place within the external iliac and femoral veins, causing a brawny, painful swelling of the entire extremity.

Symptoms usually commence from one to six weeks after labor. On its first appearance there are rigors, fever, thirst, nausea; great pain, swelling, loss of motion of the affected extremity; limb hot, tender, non-edematous, but swollen and twice its natural size, of a pale white color, tense and elastic, having a glazed and shining appearance; and even after acute symptoms have subsided, the limb remains enlarged for many weeks, even months.

In some cases of uterine cancer the same condition may be induced.

Bathe limb morning, noon and night with alkaline wash, dry well; rub with warm olive oil, always toward the body; then apply concentrated ozone; finally bandage from the great toe to the groin. Internally sulphide of lime alternated with passiflora. Keep bowels open once or twice daily with uric acid solvent.

PHLORIDZIN.—An alkaloidal principle extracted from the root and trunk of the apple, pear, cherry, and plum trees. Its administration is of special utility in all fevers.

PHOSPHATURIA.—Probably the most prevailing malady in North America among young, middle-aged and old men, is the excessive metamorphosis of brain substances and its escape in the urine, constituting what is known as phosphaturia. turia.

The constituents of normal urine consist of various chemical compounds, derived from the elements of retrograde tissue waste, in the healthy state of the organism, together with the ashes of products introduced into the system in the form of food and drink.

The average quantity of urine passed daily by a healthy individual, who eats and drinks in moderation, lives in a temperate atmosphere, is about fifty ounces in the twenty-four hours.

varying some at different periods of the day or night, decreasing or increasing according to the activity of the skin and bowels, as well as by rest, abstaining or increasing the quantity consumed.

Pathologically it is increased in quantity as well as in its solid constituents in diabetes, cirrhosis, in all neuroses, cardiac failure.

The solid constituents, or ashes, represent the waste or metamorphosis of some special tissue of which it is made up.

The prevailing affection is a neurosis of the male urinary and sexual system, which gives rise to changes in the prostate, urethra, with disturbances of nutrition, chronic brain and spinal affections, with exalted reflex impressibility, anemia, feeble constitution.

This neurosis in many cases is brought about by masturbation, sexual excesses, perverted sexual intercourse, gonorrhea, which are destructive to both the mental and physical system, being physiologically unnatural.

The neuroses of the genito-urinary organs are easily recognized by the physical symptoms, by an examination of the urine, and finding an excessive deposit of earthy phosphates persistent from day to day. Much of the premature decrepitude, nerve degeneracy, breaking down, lies in modern civilization, whereby the modern man is robbed of rest. The morning paper, read before or at breakfast, the telephone, the electric light, keeps the brain unduly stimulated through the retina. Modern travel, noise, bustle, each excites the cerebrospinal system; trashy novels, telegrams, business, wither and wreck lives innumerable; overstrained and exhausted nerve force.

In those cases, without any sexual excitement, a moisture, a clear, transparent, viscid drop, like the white of an egg, oozes away from the mouth of the urethra. This drop represents the secretion from the accessary glands of the genital tract; of this the prostate furnishes the largest amount. The object of the prostatic secretion is to lubricate the urethra, facilitate the discharge of semen. If this clear, viscid fluid is secreted in greater amount, and oozes away with or without sexual excitement, it is a catarrh of the prostate, a sequel of either acute or chronic inflammation of that gland. Prostatorrhea is either transient or permanent, often a product left by a gonorrhea, a moisture remaining sometimes more copious.

The causes of prostatorrhea are either masturbation, sexual excess, unnatural methods of coition, or gonorrhea; rare cases

irritation of the rectum and calculus may give rise to it. If hypertrophy of the prostate, there may be also a hypersecretion.

In all these cases there is a remarkable condition, phosphaturia, present, as well in excessive mental activity, great responsibility, worry.

In all such conditions phosphaturia is present.

Phosphaturia, an excessive escape of earthy phosphates in the urine, is of vast importance—no trivial affair. Phosphorus is an essential element of the body, mentally as well as physically; without it there can be no thought, an essential element of growth and nutrition; exists in the blood in a neutral form, and is eliminated as a normal constituent in the urine in the proportion of one to a thousand. In health the average daily excretion of phosphates in the urine is from thirty-five to fifty grains. It is usually found in three distinct forms or varieties:

1. The phosphates of potassium and soda, which are very soluble, rarely forming a deposit.

2. The phosphates of magnesium and calcium, which form one-third of the whole normal phosphatic constituents of the urine, not very soluble, precipitated almost under all conditions.

3. Triple phosphates, which are formed by the combination of magnesium phosphide with carbonate of ammonia.

Its etiology very varied: Sexual neurasthenia, most generally dependent on a neurosis of the sexual glands. In young adults, sexual excesses; middle-aged and old men, libertines, who have lived fast and freely; brainworkers, monotonous existence, no relaxation, neglected exercise, and air treated as a luxury.

An excessive amount of phosphates in the urine over the normal is a true cerebral hemorrhage, is due to the wear and tear of the nervous system; a wreckage, it may not be serious, and if no organic change has taken place in the spinal cord and brain, may disappear under rest, country air, hygiene and tonics.

The spontaneous deposits of the earthy phosphates in the urine is not necessarily an evidence of their excess, because when normal, urine becomes alkaline, a deposit of phosphates may take place when their amount is within physiological limits. A diet of cereals and brainwork have a marked effect in bringing about the formation of large quantities of them, excessive and persistent. It is no local disorder, simply a cerebral wreckage, the nerve tissue running off in the urine in powder

form or in the form of stellar crystals of the phosphate of lime, not infrequently fatal. The phosphate, to constitute phosphaturia, must be permanently present in excess, not periodically, but persistent and increasing by copious showers of stellar crystals.

There are some well-defined symptoms which excite suspicion: polyuria, thirst, excessive; the patient is conscious of his failure of general vigor, extreme languor and irritability of temper, which is new to him; neuralgic pains, which are unaccountable, often recurring; great drowsiness with coma.

A great increase of urea combined with phosphaturia gives rise to emaciation and sometimes tuberculosis.

As a rule the urine is of a low specific gravity, containing neither albumin nor sugar.

The persistent presence of phosphates, which appear to be a dense cloud in undecomposed urine, of neutral and alkaline reaction, is capable of much mischief, especially the triple deposit. Its recognition is easy, urine excessive in amount, either neutral or alkaline in reaction, low specific gravity, loaded with phosphates of the stellar variety. It bears a strong resemblance to chronic interstitial nephritis. In the latter albumin is present persistently.

The effect of phosphaturia upon the general health is most deteriorating, invariably bad, destroying the strongest constitutions.

If it be the product of sexual neurasthenia from damaged reproductive organs, there is always present prostatorrhea irritable or enlarged prostate; that condition must be either ameliorated or cured by the introduction of a saw-palmetto suppository after the morning evacuation of the bowels, a boroglycerid at noon, and a cocain at bedtime, and one or two doses of urotropin daily, to keep the bladder free from the micrococcus ureæ and other bacteria, and afford the patient easy micturition.

The great drowsiness, extreme irritability of temper, the onset of emaciation, increase of the stellar phosphates, excretion of urea, add much to the gravity of the condition.

Treatment is often successful, which consists chiefly in rest, bath, massage, every means to promote nutrition, promote health, and check undue excretion of phosphates. To allay the unquenchable thirst, clear the brain of the inevitable drowsiness, a drink in the form of a lemonade made of c. p. solution of lactic acid and water and sugar.

Kephalin granules supply more assimilated phosphorus than any other remedy in the materia medica. They are specially indicated as the great constructive agent of the age.

Comp. matricaria is another remedy of exceeding great value in every case; an invaluable tonic, it checks retrograde waste, at the same time toning the springs of life and raising the standard of vitality.

Cacodylate of sodium, excellent when cerebral waste is greatest, when it gives rise to neuralgia and nerve anemia. Above all agents it puts a stay on destruction, favors construction.

PHOSPHORUS.—A bone and brain tonic and rebuilder.

There are a variety of preparations. A simple infusion of the sticks is good, a tincture better, and freshly-made dilute phosphoric acid best of all in ten- to twenty-drop doses every three hours added to water.

The phosphates and hypophosphites of lime, soda, potassium, and iron are all excellent, but the ozonized glycerophosphite of soda as a tissue builder is unexcelled, as both its physiological as well as its therapeutic action exerts a direct action in favoring assimilation and metabolism.

Neurasthenia, grave cerebral-wreckage, Addison's disease, the exhaustion or gone feeling of influenza, overwork, locomotor ataxia are benefited by this remedy.

PHYTOLACCA.—Poke-root, indigenous to the United States.

Therapeutic Uses.—A valuable drug, kills the microbes of cancer, syphilis, tubercle. Alone or, better still, combined with iodide potassium.

Next to saxifraga the best vegetable alterative in the materia medica.

Preparation and Doses.—The ozonized fluid extract of phytolacca, teaspoonful doses; the tincture 15 to 20 drops.

Phytolacca berry juice ozonized, the North Carolina poke berry just touched by the frost, gathered, compressed ozonized, is the safest, most effective agent for stripping the human body of that non-vital element, fat, the dose necessary to eliminate two pounds of adipose tissue weekly being from 2 to 15 drops. It must be alternated every other week by some other remedy, such as the fucus vesiculosus.

PICRIC ACID has been much vaunted as a remedy for burns and scalds.

Make a solution of picric acid by adding ninety grains to three ounces of alcohol, which is then diluted by adding one quart of distilled water.

Strips of sterilized gauze, sufficient in quantity, are soaked in this solution and applied so as to cover the whole of the injured parts. It must be covered with a bandage if accessible. This dressing may be left in place for four days, then thoroughly moistened with the picric acid solution and removed. The second dressing may be permitted to remain a week.

This method has advantages. The picric acid deadens the sensibility to pain, coagulates the albuminous exudations, limits its suppuration, kills all bacteria, promotes cicatrization, not so rapid as that produced by formal-gelatin, but it has its merits.

PICRATE OF AMMONIUM.—Annihilates the malarial germ: it has many advantages over quinine, producing no unpleasant effect, no headache, no deafness nor tinnitus. Dose: From one-eighth to one and a half grains in pill form four times a day.

PIMPLES.—Pimples usually develop on the surface of the body where the skin is most inactive and the least prepared to eliminate properly the poisonous substances which come through its glands. In this way more or less matter is retained within the glands, which is a source of irritation, and they become inflamed, and pimples develop. They are best prevented by keeping the liver active with kolatina, and cured by increasing the tone and activity of the skin, which can be done by means of hot and cold bathing and massage of the skin; lotions of either lactic acid or lemon juice are of utility where the pimples are very large.

PINUS NEEDLES.—All varieties of the pine tree are in the true sense of the term ozone generators or breeders; splendid bactericides; grow luxuriantly all over the world.

Therapeutic Uses.—Both local and internal in rheumatism, paralysis, skin diseases, chronic catarrh, laryngitis, bronchitis.

Preparations and Doses.—The volatile oil is used internally in doses of 16 drops. In inhalations it is mixed with the carbonate of magnesia and water.

A fluid extract is used for baths in rheumatism.

Turpentine ozonized for peritonitis; terebene for coughs, 8 to 10 drops on sugar.

The white rosin pulverized with cream of tartar is efficacious; wool or wadding saturated with it relieves the pain of rheumatic joints.

The oil of the needles of the North Carolina pine is equal in germicidal powers to the c. p. guaiacol on the tubercular bacillus, that is, it has precisely the same bactericide action when it enters the blood; annihilating the germ, neutralizing its toxin, whether it be inhaled, administered orally, by tablet, syrup, or suppository, or as an ointment applied to the skin.

For treatment by inhalation the ozonized distillation of the needles is the best. An elegant, efficacious remedy in bronchial tuberculosis, used for about fifteen minutes six times daily. Most admirable also for a bath.

The tablet, simply held in the mouth and permitted to dissolve and swallowed, exhibits its wonderful power in allaying cough.

For preparing the pine ointment add one ounce of the oil to sixteen ounces of ozone ointment. This is potency enough to destroy the germs of eczema, herpes, sycosis and some other forms of tinea, etc.; for lupus it requires to be doubled.

Pine-tree syrup is undoubtedly the best remedy for cough ever presented to the profession. It matters little whether it be the cough of bronchitis (the conferva), the cough of pneumonia (pneumococcus), the cough of pulmonary tuberculosis, it will relieve them or mitigate their severity.

Whether within or without the body, all the preparations of turpentine are great ozone generators. The liberation of this agent is inimical to microbic existence.

Ozonized turpentine is much more germicidal, and owes this faculty to the presence of negative ozone.

PISCIDIA.—Jamaica dogwood, the bark of *Piscidia erythrena.*

Therapeutic Uses.—It is a very superior narcotic, its glucoside being piscidin, which acts on the sensory gland of the spinal cord. Employed internally and locally in toothache and neuralgia of the fifth pair. Equal to chloral hydrate and bromide of potassium in delirium tremens. A splendid sedative in asthma and bronchitis, and for allaying pain, spasm, and nervous excitement generally.

Preparation and Dose.—Fluid extract. Dose: Thirty to sixty drops.

PITYRIASIS (*Dandruff or Scurf*).—A superficial inflammation of the skin, an excessive secretion from the sebaceous glands of the scalp, with the formation of brandy scales.

Treatment.—Washing the hair daily, followed by a boroglycerid lotion, to which a percentage of quinins and tincture of cantharides is added.

PLAGUE.—As the United States of North America is simply the dumping ground for the refuse population of all other nations, it is well for us to note the progress of epidemics and the evolution of microbial affections generally, especially among races debarred from our shores by law, but who nevertheless migrate in by every avenue.

It appears that a peculiar form of disease has prevailed in Asia during the greater portion of the last century, which very much resembles our relapsing fever which prevailed quite extensively in our seaboard cities in 1872. The symptoms of the plague have been marked by high fever from the very onset, with vomiting; upon this followed buboes, chiefly in the armpits and the front of the thigh, the swelling being exquisitely tender and suppurating later. The brain symptoms have been unusually severe, being commonly marked by convulsions and stupor, going on to coma and delirium. Many of the patients have died quite suddenly and instantaneously from heart failure. The blood disintegrates, the hemoglobin being notably diminished. The results of numerous post-mortem examinations have been to show enlargement of the spleen, meningeal hemorrhage, extreme congestion of the kidney and liver. The glands also are infiltrated with blood, and bathed with a serous fluid, causing a widespread edema. At the beginning of the outbreak the mortality was intense, amounting to 85 per cent of those attacked. It has now fallen not only in numbers but in severity of type, the mortality of the later cases being only 60 per cent. Bastericides, sulphide of lime and echinacea.

Black death, or glandular pestilence, is simply the bacteria of typhus operating upon one whose vital forces are a perfect wreck. It has all the characteristics of typhus, and in addition the rash is in dots, purple-colored, and there is inflammation and suppuration of the lymphatic glands. It is extremely contagious, comes on with great violence, runs its course rapidly; petechiæ come out early; glands of neck, axilla, groin, and mesentery inflame and suppurate. Boils, fever, diarrhea, vomiting, hemorrhages, convulsions, prostration, congestion, and softening of heart, liver, spleen, and kidneys.

Treatment the same as typhus; push antiseptics, and in order to prevent the bacteria from contaminating all around, keep the body well covered with oil so as to smother them when they seek the skin.

Administer frequently and liberally the ozonized concentrated tincture of echinacea.

PLETHORA.—A morbid increase in the plasma of the blood. Due to inertia, excess in eating and drinking, especially malt liquors.

Restrict the amount of saccharine and amylaceous articles of diet; diminish the amount of fluids; daily alkaline baths with massage; bowels to be kept freely opened with salines. Try fucus vesiculosus alternated with ozonized phytolacca berry juice.

PLEURISY (*Acute and Chronic Streptococcus*).—Inflammation of the internal lining membrane—the serous covering of the chest—is generally caused by mechanical violence or cold, damp, wet, exposure. It is easily recognized by the depression, fever, cough; by the sharp, lancinating pain, or catches over a circumscribed area; by the roughened or friction sound at the same point. The streptococcus can usually be detected in the sputum.

Microbial evolution cannot take place if the action of the heart is maintained at 65 by the administration of veratrum viride, passiflora incarnata, and echinacea, which promote a renewal of life in the pleura.

Perfect destruction of the germ takes place when ozonized turpentine is applied over the microbial nests in the pleura.

PLUMBISM.—The saturation of the solids and fluids of the body with lead; common among painters, glaziers, plumbers, decorators, electroplaters and other operatives in lead, such as in potteries. The metal, whether inhaled, drank in water or wine and absorbed through the salivary glands of the mouth, passing cutaneously, has an affinity for weakened parts of the nervous system. Most selective in its action, causing paralysis; works even insanity, delirium, and affections of the spinal cord. The dire effects of the introduction of lead into the human body is most disastrous. True, the administration of iodide of potassium in the comp. syrup saxifraga, with sulphuret potassium baths, with proper electrical treatment, rap-

idly neutralizes and eliminates the poison, but it must be done systematically and thoroughly, and not dispensed with until all symptoms, even the blue line on the gums, have disappeared.

PNEUMONIA (*The Pneumococcus*).—Inflammation of the substance of the lungs is a common and very fatal malady —common owing to the remarkable vicissitudes of temperature, to the carelessness of our people breathing impure, vitiated air, inattention to the laws of health, thereby impairing digestion, hindering nutrition, rendering the body susceptible to the development of a germ; fatal, owing to its treatment with coal-tar derivatives, heart paralyzers, as antipyrin, phenacetin, antikamnia, etc.

The predisposing cause of every case of pneumonia is nervous depression; the exciting cause, some shock, some injury, some damage to the substance of the lungs, whereby its vessels are relaxed, whereby a disease germ, the factor, the pneumococcus comes into being, and the devitalized lung becomes infiltrated, congested, solidified, the terminal tubes and air cells become impermeable to the ingress of air.

During the progress of microbic growth and lung infiltration a most deadly toxin is given off.

This product of bacterial life becomes a lethal element in the blood, essentially destructive, causing embolism of that fluid, poisoning the brain, paralyzing the heart.

This toxin is found in the prune-juice sputum, in the saliva, and abundant in the urine. It is this toxin which depresses cardiac vigor, and renders life precarious, and more especially so when associated with advanced age, pre-existing disease, mental or bodily exhaustion.

Excessive exudation within the lung impoverishes the blood, acts injuriously upon a weak heart by enfeebling the tissues, starving the nerve centres—a high temperature exhausts nervous energy, enfeebles muscular power.

Veratrum viride, administered in small doses frequently repeated, is our best remedy in pneumonia. It should be alternated with ozonized passiflora. The two remedies in alternation rapidly bring about a crisis in checking the congestion of the lung and toning up the heart. They together abort microbic growth, slow the irritable heart, dilate the arterioles. It is best to give the passiflora liberally and alone, as it is an hypnotic, acts directly upon the great sympathetic; it is a sedative, diminishes and ultimately abolishes the reflexes. It

is difficult to find a drug like it in pneumonia. Put the patient under its influence, it will recuperate exhaustion. It checks wholly or in part the source of organic change, through which microbic growth becomes dangerous.

Whatever view your readers entertain as to the causation of pneumonia, they will find that this preparation of passiflora soothes pain, stops cough, relieves insomnia, shortens the duration of every case in which it is used,—it favors an early crisis and relief from suffering.

It is customary to prescribe either quinine or strychnine in pneumonia. They are good, but in an experience of many hundred cases I prefer comp. tincture of matricaria to stimulate the respiratory centre, as it increases the oxygenating power of the lung when the breathing surface is diminished. An admirable tonic for all cases of pneumonia.

Veratrum viride, ozonized passiflora, comp. matricaria are the remedies, with protonuclein added; this latter must never be omitted. Local stimulation over the dull, infiltrated areas never should be neglected. Concentrated ozone, oil of horsepeppermint and oleum tiglii, followed by flaxseed-meal poultices.

Certain it is that nervous depression affords a predisposition, while some exciting cause, some depressant, as either cold, wet, exposure, or a fractured rib—no matter what its etiology may be, there is either the migration or evolution of a pathogenic microbe in the damaged lung—a vital organ smitten, a dangerous malady, whose duration is short if the vital forces are very feeble—impairment of the pulmonary function, and the presence of the toxin of the microbe accounts for the fatal result.

The toxins excreted by the pneumococcus are of the most deadly character, especially paralyzing to the heart muscles, giving rise to cardiac failure. The collapse, the fatal weakening of the heart are dependent on oligemia, which leads to impaired nutrition of the muscular structure of that organ

In the very recesses of morbid action there is a weak heart, which is still more enfeebled by microbic growth—the fever which makes extra demands upon it. Another factor in the case is the imperfect aeration of the blood, still loaded with toxins, which gives rise to cerebral anemia and innervation of the heart, at the same time depriving the blood of a large quantity of its vital constituents.

If the treatment be inefficient, hesitating, if the oligemia

be not combated with every means, death is liable to take place about the eighth day, the period which corresponds to the transition period from red to gray hepatization.

To the most superficial mind the diagnosis of this malady is easily and distinctly marked; the cough, the rusty or prune-juice sputum, the rigor, the fever, the flush on the cheek corresponding to the germ-smitten lung; dilated nostrils; the greatly embarrassed breathing, with cardiac failure.

The mortality from the pneumococcus has been enormous, not precisely due to the germ and its toxin, but due to the use of phenacetin, antipyrin, and other coal-tar derivatives, which, together with the application of cold, have increased the death rate to an alarming degree; whereas under the treatment of veratrum viride, passiflora, gelsemium and protonuclein, with local stimulation, few cases prove fatal.

This method promotes leukocytosis, an increase of the white corpuscles which crowd out the germ, and eventuates in a general rapid movement.

The passiflora incarnata is a sovereign remedy in pneumonia. It supersedes the use of all preparations of opium in tranquilizing the irritability.

Nutrition must be as generous as possible.

Accept the theory that pneumonia is a microbic disease, contagious and infectious, that the evolution of the germ is dependent upon some nervous defect such as an exhausted great sympathetic, and discard in treatment such cardiac paralyzers as antipyrin, phenacetin and all coal-tar derivatives, and in their stead, from the beginning to the end, administer large and frequent doses of ozonized passiflora incarnata, under which the microbe loses its power of sporulation and dies—besides its action upon an exhausted sympathetic is to restrain evolution from a depreciated centre, inhibit microbic growth, produce complete inertia of the cell elements; there are no toxins. Until you feel safe on passiflora add small doses of veratrum viride, so as to soothe the heart's action. Next to passiflora in real efficacy is sulphate of quinine and protonuclein, two remedies which never can be omitted in any single instance. Locally over the damaged lung some local vitalizing stimulant, as either dry cupping followed by inunction of olive oil and concentrated ozone, or oil of horse-peppermint and concentrated ozone.

It is not well to wait, to delay for a crisis, as they term it, a time when the microbic elements are so numerous; toxins

prodigiously so, so great that they themselves destroy the pneumococcus. It is well to take no such risks, but administer remedies in advance. Chloride of ammonia is an excellent remedy to neutralize the toxins of this germ, probably the best; administer early, long before the heart's action becomes embarrassed by a clot, or the lips are purple or skin livid—give it well diluted in water.

If there be irritability of the stomach cleanse out the rectum, and instead of administering the quinine orally give per rectum every three hours; or what is even better, substitute concentrated tincture of kurchicin, or the suppository of the same for the cinchona alkaloid.

The disappearance of forest growth in our country has deprived us of a powerful antagonist to disease germs, and rendered our climate most unstable, deprived us of a perennial source of ozonic effluvia, which has a distinct therapeutic value in all ailments of the respiratory organs.

Spring and fall pneumonia is epidemic, its mortality great, nay increasing under the use of our coal-tar drugs.

There is a predisposition in our very atmosphere to this direful malady; in nervous depression, either from overwork, exhaustion, intense struggle, exposure to extremes of heat and cold, wet, inhalation of irritants, acting as exciting causes. Under this dual condition the primary elements of lung nutrition are changed, altered, degraded into other living matter, a disease germ, the pneumococcus.

The very presence of this germ in the substance of the lung is the cause of red hepatization; if the powers of life are feeble, it grows with great rapidity, excreting its toxins in such abundance as to cause its own death.

Pneumonia is the most fatal malady in these states, two-thirds of all cases dying. This mortality can be traced to treatment, to utter laxity or tardiness of action, and to the use of such remedies as antipyrin, phenacetin and other coal-tar derivatives, which paralyze the heart's action.

The germicide system of practice is thoroughly rooted in New England. Read what their present leader says: "The pyrexia of pneumonia is brief, normal to the disease, and unfavorable to microbic growth and activity, and all treatment by antipyretics are harmful. The development of the germ is checked by a high temperature. This in well-marked cases rises to 104 degrees F., and at this temperature the growth of the germ is checked. The reduction of tempera-

ture by any remedy not distinctly inimical to the micro-organism is injurious."

Cold, therefore, should be avoided. Very salutary results follow the exhibition of the alcoholic vapor bath; it increases the temperature, quickens the circulation, relieves pain, gives great comfort, carries conviction to the incredulous. It has no depressing effect on the cardiac and respiratory motor centres, but increases their dynamic force.

Local stimulation over the damaged lung with dry cups, followed by cantharidal cerate or concentrated ozone, increases vitality, promotes leukocytosis.

Protonuclein in suppository is a remedy of great value in pneumonia because it increases the white corpuscles of the blood; at the same time it antagonizes the toxins, the excretion of the pneumococcus.

In pneumonia the brain is imperfectly nourished and the sympathetic fretted, and the indications of all sound treatment are increased nutrition; extensive consolidation, overwhelming engorgement of the lungs, calls for the persistent administration of the sulphide of calcium to disseminate the clot, the red hepatization. The immediate use of this remedy is imperative, the relief it affords is markd and immediate. Relieve the engorgement by breaking up the coagulum. This cannot be effected by retarding the action of the heart by either veratrum or phenacetin, but the sulphide of calcium will do it, and of this every physician should have an abundant supply for the fall and winter months.

It is an invaluable agent in pneumonia, acting disastrously upon the pneumococcus, thereby shortening the attack or aborting it altogether. Being a microbicide of great power, it dissolves and disseminates the fibrinous coagula formed by the germ. Just as soon as expectoration is induced and becomes free, it shows the work is done; but the remedy should not be dropped, but given in shorter doses and at longer intervals. Give it in pneumonia in all ages if this germ be present. It is never contraindicated, not even in the direst weakness, and cardiac failure; hold on to it—it is a life saver. Passiflora ozonized and concentrated tincture kurchicin valuable aids; always local stimulation over the damaged lung; it is an aid, producing leukocytosis, a renewal of life.

PODOPHYLLUM PELTATUM.—The root of mandrake is an excitant to the glandular system generally, but a very

powerful stimulant to the liver, causing a great increase of flow of bile. Great caution should be exercised in its administration, never given alone, but with some agent to modify its action, and in small doses.

Preparations and Doses.—Fluid extract, with either hyoscyamus or bitartrate potassa. Dose: Three to 5 drops, thrice daily.

POISONS.—There have been suggested several classifications of poisons, but that based upon the most characteristic and prominent symptoms is undoubtedly the best for the pharmacist and physician to thoroughly consider:

1. Drugs (poisons) causing death immediately or in a few minutes: Bromine, carbon dioxide, carbon monoxide, chlorine, cyanides, nicotin, oxalic acid, hydrocyanic acid, sulphureted hydrogen, sometimes strychnine and strong mineral acids, etc.

2. Drugs (poisons) known as corrosives and irritants:

(*a*) Corrosives, causing local destruction of tissues along with much nausea and vomiting: Ammonia water, barium salts, caustic potassa, caustic soda, concentrated lye, potassium chlorate, potassium nitrate, quicklime, strong acids (carbolic, chromic, hydrochloric, nitric, nitrohydrochloric, sulphuric, etc.).

(*b*) Irritants, causing mainly pain, nausea, vomiting and purging: Bromine, cantharides, carbolic acid, castor beans, chlorine, compounds of antimony, arsenic, bismuth, copper, chromium, iron, lead, tin and zinc, decayed meat, gelsemium, iodine, mushrooms, phosphorus, savin, veratrum, etc.

3. Drugs (poisons) affecting the nervous system:

(*a*) Narcotics.—These produce insensibility as the chief symptom, often preceded by more or less cerebral excitement: Alcohol, chloral, chloroform, ether, opium, etc.

(*b*) Deliriants (cerebrospinal neurotics).—These produce delirium as a prominent symptom: Belladonna, camphor, cannabis indica, cocain, hyoscyamus, mushrooms, solanin, stramonium, etc.

(*c*) Convulsions.—While nearly all poisons may cause convulsions, there are several occasioning very violent muscular paroxysms: Brucine, ignatia, narcotin, nux vomica, picrotoxin, strychnine, etc.

(*d*) Multiple Disturbers.—These produce complex nervous phenomena: Aconite, conium, curare, digitalis, lobelia, nicotin, physostigma, tobacco, etc.

Owing to the very great uncertainty of poisoning cases, it is imperative that pharmacists and physicians carry in mind the respective antidotes, remedies and specific treatments. Not a moment is to be lost in such emergencies, as so frequently lives have been sacrificed in the delay of searching for method of treatment, proper medicines and necessary instruments. Indeed, it would be a most excellent plan for all physicians to keep in constant readiness a box or bag filled with the combating essentials for poisons, and for them to insist upon their various druggists having such a collection at all times available, along with a reliable antidotal chart: (1) Stomach pump, or 5 to 8 feet of half-inch rubber tubing. (2) Hypodermic syringe. (3) Bleeding lancet. (4) Small faradic battery. (5) Four-ounce can of mustard. (6) One dozen zinc sulphate powders; one half 30 grains each, the other 15 grains each; or a number of 10-grain tablets. (7) Several 15- and 30-grain ipecac powders. (8) Solution apomorphine hydrochlorate, 2 per cent; hypodermic emetic dose 3 to 4 drops. (9) Jeaunel's general or multiple antidote (magnesii oxidum, 2 ounces; carbo animalis, 1 ounce; aqua, 20 ounces; to be kept always mixed, but just before using add thereto liquor ferri tersulphatis, 2½ ounces. This is harmless, and can be given in wineglassful doses, frequently repeated, for such poisons as arsenous acid, digitalis, mercuric salts, opium, strychnine and zinc salts, but is of no good for antimony compounds, caustic alkalines or phosphorus. (10) Several ounces of dilute acetic acid (vinegar) and calcined magnesia (to neutralize alkalies, acids, etc.). (11) Tannic acid to precipitate alkaloids as insoluble tannates; and test solution of iodine (iodine, 1 gram; potassium iodide, 3 grams; water, 50 c. c.), to indicate the presence of alkaloids by giving a reddish-brown precipitate in nearly all cases. (12) Chloral, chloroform, ether, potassium bromide (as narcotics or anesthetics in tetanic poisons). (13) French (old) oil of turpentine (physiologic antidote for phosphorus). (14) Hypodermic solution of atropin sulphate, 1 per cent, dose 2 to 6 drops (physiologic antidote for aconite, benzin, gelsemium, morphine, muscarin, opium, physostigmine, pilocarpin, etc. (15) Hypodermic solution of pilocarpin nitrate, 5 per cent, dose 10 to 15 drops (physiologic antidote for atropin, daturin, duboisin, hyoscyamin, etc.). (16) Hypodermin solution of morphine sulphate, 10 per cent, dose 5 to 8 drops. (17) Hypodermic solution of strychnine sulphate or nitrate, 2 per cent, dose 2 to 3 drops. (18) Half

ounce of potassium permanganate (for morphine, etc., poisoning). (19) Several ounces of dialyzed iron (for arsenic poisoning). (20) Ammonia water, aromatic spirit of ammonia, brandy, whisky, extract of coffee. Apart from this outlined potential readiness of pharmacist and physician, they can often supplement safety by suggesting to appreciative patrons the advisability of providing for their homes a small collection of antidotal agents, properly labeled as to name and use, such to be: Jeaunel's general antidote, calcined magnesia (for acids), old spirit of turpentine (for phosphorus), vinegar (for alkalies), can of mustard (general emetic), several 30-grain powders of ipecac, several 20-grain powders of zinc sulphate, at the same time stating that in case of poisoning the most accessible physician should be sent for at once, but while awaiting him hasten to give one of the emetics mentioned, soon following it with Jeaunel's antidote.

Acetanilid (Antifebrin and Antipyrin).—Place in a recumbent position, loosen the clothing about the neck, chest and waist, allow plenty of fresh air; give stimulants (brandy, whisky, aromatic spirit of ammonia, etc.); apply external heat; use atropin or belladonna to maintain blood pressure; strychnine to aid respiration; oxygen inhalations if cyanosis is excessive.

Acid, Carbolic (Creosote, Resorcin).—Unless great destruction of mucous membrane has occurred, vomit with warm water containing sodium bicarbonate or zinc sulphate (mustard, apomorphine). The chemical antidote being any soluble sulphate, one may at first wash out the stomach with sodium bicarbonate solution, 1 ounce to 8 ounces of water, and follow with 2 ounces of Epsom or Glauber salt, to form sulphocarbolate, or by dilute acetic acid. Vinegar neutralizes the action of carbolic acid. Applied to the skin or mucous membrane burnt by carbolic will cause the rapid disappearance of the characteristic whiteness as well as the anesthesia produced by the carbolic. It also prevents the formation of the slough. It also neutralizes the effect of carbolic in the stomach; therefore, the first thing to do when carbolic has been swallowed is to make the patient drink vinegar mixed with equal parts of water, and then wash the stomach. Demulcent drinks, flaxseed or elm tea, protect mucous surfaces, as does white of eggs beaten up with water. Give no oils or glycerin. As stimulants use whisky, alcohol, ammonia, etc., hypodermically, if need be; warmth, friction. Opium relieves

pain. Excite counterirritation over the abdomen. Give digitalis and strychnine if needed.

ACID, CHROMIC (Potassium Chromate and Bichromate).—Evacuate the stomach with one-half ounce of mustard, stirred to a cream with 1 ounce of water; or with zinc sulphate, apomorphine, ipecac or pump. Follow with magnesium oxide or carbonate, sodium bicarbonate or chalk in water. As demulcent drinks, give barley, elm or flaxseed water.

ACID HYDROCYANIC (Cyanides, Cherry-Laurel Water, Oil of Bitter Almond).—Fifteen minims of official acid, or 1 grain of anhydrous acid, usually kills in 10 to 15 minutes. Place in recumbent position, allow plenty of fresh air; empty the stomach by mustard, zinc sulphate or pump; keep the body warm. If breathing ceases, use artificial respiration, mild faradic current to the heart, alternate cold and warm affusions to head, chest and spine; administer ammonia by inhalation or give it by mouth or veins; inject atropin solution 2 to 4 drops every half hour to assist the heart's action. Ferrous sulphate with ferric sulphate, followed by potassium carbonate solution, yields inert Prussian blue. Ferrous sulphate alone or with calcined magnesia renders the acid insoluble, but the action of the acid is so quick that there is scarcely time for the application of many remedies. Brandy by the mouth, skin or rectum has been found valuable.

ACIDS, MINERAL (Hydrochloric, Nitric, Nitrohydrochloric, Sulphuric, Phosphoric).—One to 4 drams of the stronger acids usually prove fatal. Neutralize with sodium bicarbonate, calcined magnesia, lime, chalk, or wall plaster mixed with water; if none of these are accessible, dilute and wash out the stomach with considerable water. One may use with advantage any of the following: Soap, milk, gruel, olive and almond oils, eggs beaten up. Avoid the stomach pump, as it might perforate the softened esophagus.

ACID, OXALIC (Oxalates).—Half to one ounce usually proves fatal. If not already vomited by the poison, empty the stomach at once with mustard, zinc sulphate, pump or tube, then neutralize with chalk, whiting or wall plaster in water, or lime water itself, never with sodium, potassium or ammonium salts, as these form soluble oxalates; apply hot fomentations to the loins. Give an enema to empty the bowels. Give much water to facilitate elimination by the kidneys. Oil and opium may be useful.

ALKALIES (Caustic Potassa, Soda and Ammonia).—These

usually cause vomiting, but if they do not, accomplish this by plenty of lukewarm water, to be followed by vinegar (dilute acetic acid, lemon or orange juice, tartaric or citric acid solution, 2 drams to a pint of water); olive oil, 1 to 4 drams, egg white, milk, demulcent drinks (arrowroot, elm, barley or flaxseed water) to protect the mucous membranes and sustain vital powers. May always give plenty of water and relieve pain with laudanum, 20 drops, or hypodermic morphine.

Aconite (Aconitin).—Thirty to 60 drops of tincture and one-twentieth grain of alkaloid generally prove fatal. Evacuate the stomach at once with zinc sulphate, apomorphine, mustard or pump; place in a recumbent position, the head the lowest; apply warmth to the extremities; give solution of atropin 4 drops hypodermically, or give tincture of belladonna 20 drops by the mouth, repeated. If heart syncope presents, give tincture of digitalis 15 drops hypodermically or 30 drops by the mouth. As stimulants, use ammonia, brandy, strychnine; mustard plasters to the pericardium. Aid vomiting and elimination of the poison by abundant water, to which may be added brandy or alcohol in any form. Inhale amyl nitrite, or oxygen, and if breathing stops use artificial respiration. Animal charcoal and tannin are of service.

Alcohol.—Drunkenness somewhat resembles opium poisoning and brain concussion. Empty the stomach, wash out well with warm coffee, keep the body very warm, but apply cold douche to the head; allow plenty of fresh air; apply interrupted current to the respiratory muscles; ammonia water or amyl nitrite to the nostrils; keep the patient awake mechanically by shaking, shouting, etc.

Anilin (Dyes, Ink).—One-half to 2 drams have proven fatal. Wash out the stomach well with water or vomit with copper sulphate, 5 grains, in a tablespoonful of water, repeated in five minutes if necessary. Inhalations of oxygen and injections of ether are of much service; follow with half to one dram of calcined magnesia.

Antimony, Compounds (Antimonial Wine, Tartar Emetic, etc.).—Two to 5 grains of tartar emetic have occasioned death, while several drams have failed to produce more than great vomiting and alarming general symptoms. Should these fail to cause the patient to vomit, one must create this by mustard, zinc sulphate, apomorphine or pump; follow with strong tea or coffee, solution of tannic or gallic acid, to form insoluble tannate. Give demulcent drinks (flaxseed, slippery elm, egg

white, milk); opium and stimulants in small but frequent doses. If the body be cold, apply blankets; faradic current over the heart if necessary. Instead of tannin, freshly-precipitated ferric hydroxide can be used, following with opium or morphine for the pain.

ANTIPYRIN.—See Acetanilid.

APOCYNIN.—See Digitalis.

ARSENIC COMPOUNDS (Arsenical Fly Powder, Fly Stone, Fowler's Solution, Cobalt, etc.).—Unless the poison itself vomits, accomplish this with mustard, zinc sulphate, apomorphine, pump or tube. Either wash out the stomach with a large quantity of water or give freshly-precipitated hydrated oxide of iron, made by double decomposition between any ferric solution and a solution of either diluted ammonia water, sodium carbonate or magnesium oxide, the object being to form insoluble ferric arsenite or arsenate. The ammonia acts as a stimulant, the calcined magnesia as an aperient. One may give, with advantage, oil, mucilaginous drinks, egg white, and in case of faintness, stimulants. If the skin be cold, apply hot blankets, and relieve the pain by opium or morphine; one may conclude with a dose of castor oil.

ARISTOL.—See Iodoform.

ATROPIN.—See Belladonna.

BARIUM COMPOUNDS.—See Lead Compounds.

BELLADONNA (Atropin), Hyoscyamus (Hyoscyamin), Stramonium (Daturin), Dulcamara (Solanin), Duboisia (Duboisin).—Empty the stomach by mustard, zinc sulphate, apomorphine, pump or tube; give strong infusion of coffee or tea by the mouth or rectum; also one-half grain of pilocarpin nitrate; or, instead, use morphine, opium or physostigmine to antagonize the nervous disturbances of the poison. Apply hot water to the feet; alternate douches of hot and cold water are useful. Give stimulants (whisky or brandy), ammonia to the nostrils; also practice artificial respiration.

BENZENE.—Evacuate the stomach (mustard, zinc sulphate, apomorphine, ipecac, pump). Give abundant fresh air; hypodermic atropin (one-sixtieth grain), or tincture of belladonna 30 to 40 drops. Apply alternately cold- and hot-water douches to the chest; practice artificial respiration, and apply a mild interrupted current over the heart.

BLUE STONE.—See Copper Compounds, under Mercury Compounds.

BROMIDES.—Give strong coffee, caffein citrate, digitalis;

morphine is the best antagonist, especially for the mental symptoms; ergot and belladonna are sometimes used.

BRUCIN.—See Strychnine.

BURNETT'S DISINFECTING FLUID.—See Zinc.

CALABAR BEAN.—See Physostigma.

CAMPHOR.—Empty the stomach (by mustard, zinc sulphate, pump, etc.); give alcohol or brandy in small and frequent doses (best hypodermically); either inhalations, alternate hot and cold douche; warmth to the extremities by hot blankets, etc.

CANNABIS INDICA.—Treat as in opium, but also in the first stages use lemon-juice.

CANTHARIDES (Cantharidin).—A half dram of powder or one ounce of the tincture usually proves fatal. Empty the stomach (mustard, zinc sulphate, apomorphine, ipecac, pump); allay pain with morphine hypodermically or tincture of opium (through the mouth or the rectum). Give plenty of demulcent drinks (barley, elm, flaxseed tea, gruel or pure water) but no oils or oily emulsion, in which cantharidin is very soluble; opium, stimulants, warm baths, cataplasms to the abdomen.

CARBON DISULPHIDE.—Quiet the nervous excitement with potassium bromide and chloral; support the circulation with stimulants; may vomit with mustard at first; ammonia to nostrils, warmth to the body, cold douche to the head; artificial respiration.

CASTOR BEANS.—Three seeds in one case, and twenty in another, have caused death in two and five days respectively. As soon as they have been swallowed give an emetic (mustard, etc.); later give demulcent drinks, opium to quiet violent symptoms, which resemble those of cholera.

CHERRY-LAUREL WATER.—See Hydrocyanic Acid.

CHLORAL.—One-half to one dram may prove fatal. Empty the stomach (mustard), zinc sulphate, apomorphine, ipecac, pump). When the stomach is empty introduce by tube coffee (the mouth or the rectum); keep limbs warm (friction, mustard plasters, water bags). Give 2 to 3 drops of 2 per cent hypodermic solution of strychnine nitrate every 15 minutes. Picrotoxin may be substituted for strychnine. Arouse the patient and keep him awake by coffee, caffein, flagellation, shaking, shouting; apply ammonia to the nostrils, cold to the head; amyl nitrite inhalations to stimulate the heart; practice artificial respiration if necessary.

CHLOROFORM (Ether, Nitrous Oxide Gas).—Withdraw the inhalation at once, lower well the head; pull the tongue for-

ward so as to admit plenty of fresh air. Use artificial respiration and heat; weak current—one pole on the larynx, the other on the pit of the stomach. Apply hot and cold douche; inhale amyl nitrite. If the heart has stopped, give several taps over that region, inhale ammonia; give brandy, atropin, strychnine. If swallowed evacuate the stomach (mustard, zinc sulphate, 5 drops solution of apomorphine, pump); enema of hot coffee, large draughts of water containing sodium carbonate or bicarbonate, and proceed as if inhaled.

CHLORATES (Nitrates—Potassium, Sodium, etc.).—One to one and a half ounces are usually fatal in a few hours. Empty the stomach (mustard, 4 drams; zinc sulphate, 20 grains; solution apomorphine, 2 to 3 drops). Give plenty of water and mucilaginous drinks to dilute the poison, opium to relieve the pain; amyl nitrite inhalations; avoid stimulants that would increase kidney congestion, but keep warm by hot fomentations to the loins.

COBALT.—See Arsenic.

COCAIN.—Resembles closely atropin in its general action as to pulse, pupils, respiration, sweat-glands and bowels. Give one of the usual emetics, then tannin. Morphine is possibly the best all-round antagonist; then in sequence chloral, chloroform and ether. Give amyl nitrite to counteract heart depression; alcohol and opium to stimulate the heart; should these fail, use artificial respiration. One may employ ammonia inhalations and caffein.

COCCULUS INDICUS.—See Strychnine.

CODEIN.—See Opium.

COLCHICUM (Wine, Tincture, Colocynth, Elaterium).—Fifty grains of the root, a tablespoonful of the seeds, and the same amount of root wine have proven fatal. If vomiting and purging have not occurred, accomplish the former by one of the usual emetics (mustard, zinc sulphate, ipecac, solution apormorphine, 4 or 5 drops of 2 per cent, or pump); follow with tannin, one-half-dram doses, or gallic acid, or strong tea or coffee; plenty of water and demulcent drinks; opium or morphine to allay the pain in the stomach, purging, and to antagonize heart depression; stimulants (alcohol, whisky, etc.). Keep the extremities warm and apply hot fomentations to the abdomen.

COLOCYNTH.—See Colchicum.

CONIUM (Coniin).—One to 2 drops of coniin is generally fatal in one to three hours. Empty the stomach (mustard, zinc sulphate, amomorphine, pump); apply external warmth (hot

wraps, bags or bottles); give strong tea, coffee, tannic or gallic acid, or any solution containing tannin; stimulants, artificial respiration; strychnine, picrotoxin, active exercise; castor oil.

CONVALLARIA.—See Digitalis.

COPPER COMPOUNDS.—See Mercury Compounds.

CORROSIVE SUBLIMATE.—See Mercury Compounds.

CREOSOTE.—See Carbolic Acid.

CROTON OIL.—One-half to two drams have proven fatal in 4 to 6 hours, although a half ounce allowed the sufferer to recover in two weeks' time. Empty the stomach (mustard, zinc sulphate, apomorphine, pump); give 20 drops of laudanum every 20 minutes or one-sixth grain morphine hypodermically, until pain and purging are abated. Give demulcent drinks (elm, flaxseed water, mucilage, milk, olive oil, egg white, albumin, soup); spirit of camphor, 5 drops in milk; stimulants (brandy, alcohol, whisky, ammonia); warm baths are also used.

CURARIN (Urari, Woorari).—Introduced by a wound, and if all is not removed apply ligature, suck the injured part, washing it out with slightly alkaline solution of potassium permanganate; apply warmth to the loins, plenty of water internally, artificial respiration; 1 or 2 drams of sweet spirit of nitre rapidly separates the poison through the urine. The great difficulty is in sustaining life by artificial respiration until elimination begins.

CYTISIN (Laburnum Seeds).—Induce vomiting and wash out the stomach with strong tea or coffee; follow with enema or quick purgative; stimulants; rouse the patient by hot and cold douche.

DATURIN.—See Belladonna.

DIGITALIS (Apocynin), Scillain (Scillitin), Strophanthus (Strophanthin), Convallaria, Scoparius).—A half dram of powder or 2 to 4 drams of tincture of digitalis have proven fatal, although 1 dram and 4 drams respectively have been taken with impunity. Evacuate the stomach (mustard, zinc sulphate, apomorphine, pump). Follow with strong tea or coffee or 30 grains of tannic or gallic acid in water. Hypodermic solution of aconitin nitrate, 1-200 of a grain may be given, or 5 drops of aconite tincture by the mouth; if this has given good results, repeat in 30 minutes; keep the patient quietly in bed, never allowing an erect position, as that may cause fainting to death. Give stimulants frequently by the mouth, or if vomiting occurs, by the rectum. When the drug has been in continuous

use, opium is the best antidote. Saponin and senegin are the best physiological antagonists.

DOG BITES, CAT BITES.—Suck out the wound well with the mouth, wash with a weak alkaline solution (ammonia, caustic potash, etc.), then cauterize with lunar caustic.

DUBOISIA (Duboisin).—See Belladonna.

DULCAMARA (Solanin).—See Belladonna.

ELATERIUM.—See Colchicum.

ERGOT.—Evacuate the stomach (mustard, zinc sulphate, apomorphine, pump). Give purgative (1 drop of croton oil) and assist the action by plenty of warm drinks. Tannic or gallic acid may be useful; after vomiting and purging, administer small doses of opium at intervals. Nitroglycerin, 1-50 of a grain every 15 minutes has been effective. Allow a recumbent position. Apply warmth and friction to maintain the circulation; stimulants, amyl nitrite.

ESERIN.—See Physostigma.

ETHER.—See Chloroform.

FUNGI.—See Mushrooms.

GELSEMIUM (Gelsemin).—One dram of fluid extract or 4 drams of tincture are usually fatal. Empty the stomach mustard or pump); give atropin hypodermically or tincture of belladonna by the mouth, 20 drops; apply external heat by rubbing; stimulants (digitalis, ammonia, coffee, alcohol, artificial respiration, electricity); rouse the patient by hot and cold douches.

HYOSCIN.—Similar to belladonna, but chloral is used here with great advantage.

HYOSCYAMUS (Hyoscyamin).—See Belladonna.

IGNATIA.—See Strychnine.

IODINE.—Empty the stomach (mustard, zinc sulphate, apomorphine, pump); follow with starch diffused in hot water or as a paste, or flour in warm water; farinaceous substances (arrowroot, boiled rice, thin gruel); demulcent drinks; may inhale amyl nitrite and relieve the pain by opium or morphine.

LABURNUM SEEDS.—See Cytisin.

LACTUCARIUM.—See Opium.

LAUDANUM.—See Opium.

LEAD COMPOUNDS (Lead Chromate and Acetate, Barium Compounds).—If acute, empty the stomach (mustard, zinc sulphate, apomorphine, pump); follow with half an ounce of sulphate of magnesium or sodium, or half dram of dilute sulphuric acid; milk, demulcent drinks. For the pain give opium

or morphine; for lead colic, apply a hot-water bag; hot fomentations. If it be chronic lead-poisoning, recognized by a blue line (sulphide) along the margin of gums, drop wrist (extensors paralyzed), constipation, etc., give iodides to saturation (sodium and calcium iodides being best): sulphurated potassa baths (one or two ounces in water).

LOBELIA.—One dram has been known to kill. If the patient has failed to vomit, use emetics; follow with tannin, stimulants, strychnine (5 drops of solution hypodermically), opiates.

LUNAR CAUSTIC.—See Silver Compounds.

MATCHES.—See Phosphorus.

MERCURY COMPOUNDS (Corrosive Sublimate, Nitrate, White Precipitate, Copper Compounds).—Three to 5 grains of corrosive sublimate are usually fatal in a half to several days; one ounce of copper sulphate and half ounce of acetate have killed in 4 to 12 hours. Empty the stomach (mustard), zinc sulphate, apomorphine, ipecac, pump); follow with albumen (white of one egg to every 4 grains of corrosive sublimate). Too much must not be given lest the precipitate formed by the mercuric salt and albumen be redissolved. Now give an emetic—warm water with sodium bicarbonate, zinc sulphate or mustard, and wash out the stomach with demulcent drinks (flaxseed or elm). If egg white is not convenient, one may use for mercury salts gluten, wheat flower in paste form, milk, or chop and diffuse in water fresh meat and administer the broth. Morphine for pain. For copper compounds also use stimulants; relieve the pain with opium or give reduced iron or weak solution of potassium ferrocyanide; then potassium iodide until the system is saturated to promote elimination.

MEZEREUM.—Evacuate the stomach with warm albuminous or mucilaginous drinks; follow with milk, fatty oils, etc.

MORPHINE SALTS.—See Opium.

MUSCARIN.—See Mushrooms.

MUSHROOMS (Poisonous Fungi, Muscarin).—Empty the stomach (mustard, zinc sulphate, apomorphine, pump); inject at once 2 to 4 drops of solution of atropin, or after emesis give tincture of belladonna 20 to 30 drops every half hour; castor oil and enema to remove fungi from lower bowel; stimulants; keep the body warm.

NICOTIN.—See Tobacco.

NITRATES.—See Chlorates.

NITROBENZENE (Oil of Mirbane).—Empty the stomach (mustard, zinc sulphate, pump), washing it out with plenty of

warm water if possible. Give stimulants by the mouth, the rectum, or hypodermically; artificial respiration, which must be maintained by weak interrupted currents to the chest wall. Rouse the patient by the douche; hypodermic atropin may be useful.

NITROUS OXIDE GAS.—See Chloroform.

NUX VOMICA.—See Strychnine.

OIL OF BITTER ALMOND.—See Hydrocyanic Acid.

OIL OF MIRBANE.—See Nitrobenzene.

OPIUM (Laudanum, Morphine, Codeine, Lactucarium, Cannabis Indica).—Five grains of opium and 1 grain of morphine usually prove fatal in from 5 to 12 hours; 2 and 3 drops of laudanum have killed infants, whereas several ounces have failed in case of adults. When the poison has been taken by the mouth give at once a solution of potassium permanganate; then empty the stomach, which may be difficult, by pump, apomorphine (10 drops of solution), mustard or zinc sulphate. Wash the stomach out well with hot coffee, leaving therein a pint or more; keep the body warm with hot wraps, but use alternate hot and cold douche to the head. Use hypodermic solution of atropin, 2 to 4 drops (1-120th grain) every 15 minutes for three doses; tannin and strychnine are also valuable. Apply electricity to chest muscles and artificial respiration. Keep the patient awake by shaking, flicking with a towel, applying cold water over the face and chest, walking between attendants; give inhalations of amyl nitrite. Evacuate the bladder often to prevent reabsorption.

PHOSPHORUS (Rat Poison, Matches).—One grain is usually fatal in 1 to 5 days; 1-10th grain has killed; one child met death from swallowing two match-heads; another from swallowing eight. Empty the stomach (copper sulphate, 3 grains every 5 minutes until the patient has vomited sufficiently; zinc sulphate, mustard, pump—the copper forming insoluble black phosphide). Follow this every half hour with one dram old (oxygenated, acid, French) oil of turpentine, in mucilage or floating on water, may also inhale diluted turpentine vapor; give charcoal or lime water to prevent action on tissues; also a half ounce of magnesium sulphate in a glass of water as a cathartic. Potassium permanganate, opium, and egg white may be of service, but never use fats or fatty oils, as these dissolve phosphorus, thus aiding its absorption. It is mostly eliminated by the urine, hence the bladder should be frequently evacuated.

PHYSOSTIGMA (Calabar Bean, Physostigmin, Eserin).—Six seeds have killed. Evacuate the stomach (mustard, zinc sulphate, ipecac, apomorphine, pump); hypodermic atropin, 1-60th grain, until pupils dilate. Should this fail, give chloral, 10 grains every 15 minutes, or hypodermic strychnine, 1-12th grain. Diffusible stimulants, coffee, alcohol, etc., are used and artificial respiration should be induced if necessary, and empty the bladder often.

PHYTOLACCA.—It acts *per se* as an emetocathartic, hence after the vomiting give stimulants, alcohol, ether; opium, digitalis.

PICROTOXIN.—See Strychnine.

PILOCARPUS: (Pilocarpin).—Evacuate the stomach; follow with hypodermic atropin, 1-60th grain, or tincture of belladonna, 20 drops every 20 minutes until pupils are dilated; may give tannin.

PLATT'S CHLORIDES.—See Zinc Compounds.

POTASSIUM BICHROMATE AND CHROMATE.—See Chromic Acid.

POTASSIUM NITRATE.—See Chlorates.

PRUSSIC ACID.—See Hydrocyanic Acid.

RESORCIN.—See Carbolic Acid.

SAVIN (Sabina—Oil and Tops; Tansy).—If not yet vomited and the throat not inflamed, evacuate the stomach with mustard, zinc sulphate, ipecac, pump. If the bowels have not moved freely, give one ounce of either castor oil or Epsom salt; allay pain with morphine and demulcents.

SCILLAIN (Scillitin).—See Digitalis.

SCOPARIUS.—See Digitalis.

SILVER COMPOUNDS (Nitrate, Lunar Caustic).—Give a tablespoonful of common salt dissolved in a glass of warm water, to form insoluble silver chloride; or use egg white or milk; follow with an emetic (mustard), and large draughts of warm water; give demulcent drinks (arrowroot, elm, flaxseed, gruel).

SNAKE BITES.—Suck the wound and apply to it alkaline solution of potassium permanganate (may inject this under the skin). In severe cobra poisoning, with death threatening, bleed at one arm and transfuse blood by the other; give artificial respiration and weak interrupted galvanic shocks to the walls of the chest; inhale and give ammonia by mouth.

STAPHISAGRIA (Stavesacre).—Evacuate the stomach (emetics, pump, draughts of warm water); give tannin, charcoal, diffusible stimulants. Keep the patient quiet and the extremi-

ties warm. Give chloral hydrate, 30 grains, or potassium bromide, 2 drams; or better inhale chloroform for the spasms. Use all haste, as death is usually caused by asphyxia.

STINGS (Bees, Hornets, Wasps).—Apply ammonia water or some alkaline solution to the part stung; extract the sting; use stimulants, if necessary. One may apply an onion to the part, but this is not as good as ammonia.

STRAMONIUM.—See Belladonna.

STROPHANTHUS (Strophanthin).—See Digitalis.

STRYCHNINE SALTS (Brucin, Ignatia, Nux Vomica, Picrotoxin, Cocculus Indicus).—Thirty grains of nux vomica and 3 grains of alcoholic extract have each killed; one-half to one grain of strychnine is usually fatal in one-quarter to three hours. Remove the patient from all noise, quickly empty the stomach (mustard, zinc sulphate, apomorphine, 4 drops of solution); give tannin, charcoal, iodide of starch. Place the patient under chloroform, ether or chloral, a half dram, and potassium bromide 1 dram, thus keeping up gentle narcosis several hours if necessary; inhale amyl nitrite. If spasms threaten respiration, induce it artificially; empty the bladder often.

TOBACCO (Nicotin).—Concentrated enemas and large quantities of powder kill in a very few hours; 15 to 60 minims of nicotin fatal in one to three hours. If the patient has not already vomited the drug, empty the stomach by mustard, zinc sulphate or pump; give plenty of water; keep the patient lying down; inject a solution of strychnine nitrate, 1-25th grain, or give half dram of tincture of nux vomica by the mouth; stimulants, brandy, whisky, chloric ether, etc.; keep the body warm, but apply a cold douche to the head; tannin and astringent solutions may be given.

TANSY (Oil, Leaves and Tops).—One to 4 drams of oil usually kill. See Savin.

TARTAR EMETIC.—See Antimony Compounds.

TIN COMPOUNDS.—Evacuate the stomach (mustard, zinc sulphate, ipecac, etc.). Give milk of calcined magnesia; demulcent drinks (elm, flaxseed, etc.); 20 drops of laudanum if there is much pain.

TURPENTINE.—Empty the stomach (mustard, zinc sulphate, ipecac, apomorphine, solution 3 to 4 drops, pump, tube). If there is no purging give enema, plenty of water and demulcent drinks to eliminate it by the kidneys. Apply hot fomentations to the loins; allay the pain with opium.

VERATRUM VIRIDE (Veratrin, Sabadilla, Veratrum Album).—Evacuate the stomach (unless the veratroidin constituent has ejected itself by causing vomiting), by mustard, zinc sulphate, ipecac or pump. Give recumbent position, head lowest; dry warmth to body, wraps, blankets, etc.; give hot coffeė by the mouth or the rectum; tannin, diffusible stimulants, alcohol, brandy, whisky, ammonia; morphine, electricity, artificial respiration; atropin antagonizes the cardiac depression.

WHITE PRECIPITATE.—See Mercury Compounds.

ZINC COMPOUNDS (Sulphate, Chloride, Burnett's and Platt's Solutions).—One and a half ounces of zinc sulphate are usually fatal in about 12 hours. Should the patient not vomit, use plenty of warm water containing carbonate or bicarbonate of sodium or a tablespoonful of mustard; follow this with white of egg and milk; solution of tannin or strong tea to form insoluble tannate; allay the abdominal pain by hot fomentations, morphine or opium (20 drops of tincture).

Canned food, whether it be vegetable, fish, meat or fowl, is unfit for human food, being loaded with the toxins of bacteria, their use being the cause of poisoning and many of the sudden deaths so common. There is a danger in diet.

Many cases of death are now traceable to septicemia, due to the wearing of undergarments dyed with poisonous anilin coal-tar dyes, producing dermatitis, eruptions and poisoning. Anilin black and red are most inimical to the skin when absorbed, producing violent inflammation and special types of poisoning. It is not alone the dye, but the fixing products that are exceedingly poisonous, such as bichromate of potassa and arsenic.

Some of the gastric and diarrheal troubles which prevail during the summer months may possibly be traced to a cause which is generally overlooked. Hotel and restaurant keepers, caterers, etc., buy meats, such as beef, mutton, poultry, etc., in large quantities for the sake of convenience and economy, and store them in ice-houses for future consumption. While the cold-storage method may not appreciably injure the food value of meat within the first twenty-four to forty-eight hours, when kept, as it often is, for days, and even weeks, the flesh softens, and cooking cannot render wholly innocuous the poisonous ptomains generated by slow decomposition. At any rate, the subject of cold storage is one well worth looking into by sanitarians and all those who are interested in maintaining the public health. It should be ascertained by experiment and analysis

exactly how long meats may be kept by cold storage without affecting their value as foods, and the results of the investigation published as a guide to the people in this matter.

The adulteration of all food and drink should be rigidly forbidden by law. It has been recently found that there is a poisonous body in all wines and beer, which causes cirrhosis of the liver, and that toxical agent is sulphate of potassium. Unfortunately, an accurate chemical analysis of the stimulating drinks of the various countries and of their peculiar adulterations is a-wanting, but it is certain that in the agents enumerated we find that they all produce cirrhosis; whereas in the brandy- or whiskey-consuming races typical cirrhosis is unknown. Alcohol, no doubt, sets up fatty degeneration in the liver cells, but does not produce cirrhosis, so alcohol should not be incriminated as a cause.

As a nation of beer and wine drinkers, constantly imbibing this poison, a large percentage of it in every glass consumed, we have an eating ulcer in our abdomen, hepatic cirrhosis, which, if caught in season, may be cured by the administration for a few months of the ozonized extract chionanthus and occasional doses of periodate aurum, if the cause of it is discontinued.

POLYPI.—Pear-shaped excrescences are of frequent occurrence in the hollow organs of the body, among the tubercular, syphilitic, cancerous, the common varieties being mucous, fibroid and malignant.

Their diagnosis is easy, but their treatment by excision, caustics, torsion, ligation, seldom effective in preventing their recurrence. Seeing this is the case, we may naturally ask, Is there any efficacious, either local or internal, means for their removal or the prevention of their recurrence?

The ozonized oil of thuja, administered internally and applied locally, is an effective remedy in either of the three forms in which it is usually met.

Painting the root or pedicle of a nasal polypus once or twice daily it at once begins to shrivel up, die and slough off. Thorough cleansing of the vagina in uterine polypus, followed by saturating a piece of lint with the oil of thuja and inserting it against the uterine neck, any polypoid growth will wither and drop off. The use of the oil of thuja suppository will speedily clear the rectum of such. The remedy is a success, no matter where situated or parts implicated, even inaccessible, or where there is a high degree of malignancy, the oil of thuja will do its work.

NASAL POLYPUS.—This is supposed to originate in some constitutional defect, as tuberculæ, the exciting cause being some irritation, as scratching, pulling hairs, snuff and other irritants.

There are three varieties, each of which is found protruding from the mucous membrane—gelatinous, fibroid, malignant. The gelatinous may be slate-colored, like an oyster, or red from an excess of blood-vessels, always soft; the fibroid may be pale or red, but hard and compact; the malignant may be either medullary or scirrhous; gelatinous most common. Polypus of the nose usually commences from a follicular irritation of the pituitary membrane, and gradually enlarges, until it fills up one nostril and obstructs the other. It gives rise to headache, a stuffing in the head, and an irresistible desire to blow the nose, with no relief in doing so; mucous or mucopurulent discharge; frequent attacks of epistaxis; sense of taste and smell greatly diminished, or even lost; if it presses on the orifice of the Eustachian tube, dullness of hearing; articulation indistinct; deformity of cheek; obstruction to tears, and perhaps pressure on the brain. If the diathesis is permitted to remain, they are prone to return after their removal.

Treatment.—In all cases enforce a rigid constitutional treatment, and then select the best of the various methods of removal, viz., excision, ligation, torsion, or destruction by caustics. The principal objections to excision are hemorrhage and a return of the polypus; ligation and torsion are free from these objections, but oftentimes difficult of application, for it is not always we can pass a ligature round them, and they very rarely admit of being seized and twisted. Destruction by caustics is slow but very effectual; various snuffs are used for this purpose, as blood-root finely pulverized with sulphate of zinc; blood-root, bayberry, and sulphate of zinc, in proportion to age of patient.

The ozonized oil of thuja is a perfect eradicator of all polypi. It must be given orally and applied locally.

POLYPUS OF UTERUS.—A pear-shaped excrescence attached, and growing from the mucous membrane of the uterus. It may be in the cavity, on the neck, os, or in vagina, or other part, by a pedicle, or root, or stem.

There are three varieties: (1) Gelatinous, or mucous. (2) Fibroid, pale white, covered with mucous membrane. (3) Fibroid, fleshy, or placental. The predisposing cause is tuberculæ; the exciting cause, irritations, as abortions, masturbations.

Symptoms.—Either profuse menstruation or irregular attacks of uterine hemorrhage, or a dribbling all the time, or even excessive flooding; leukorrhea very profuse. If polypus is large, there may be irritation of the bladder and rectum by pressure. The same condition is likely to give rise to bearing-down or expulsive pains, coming on by spells, or worse after exercise. The continued loss of blood is a heavy drain, and gives rise to debility, loss of flesh in proportion to the amount of loss. The polypus can easily be detected in the uterus by the sound, or, if on the neck, os, or vagina, by finger and speculum.

Treatment.—If the polypus is in vagina, or on the neck, or os, any of the following methods of treatment can be resorted to: It can be excised, and bleeding arrested with a sponge, proper size, saturated with perchloride of iron; it can be ligated, and allowed to slough off; torsion can be used, that is, it can be turned a little every day, thus impeding its circulation, strangulating it, and allowing it to slough off; or the chain of the ecraseur can be applied round it and crushed; or, if it can be brought into a speculum handy, the ozonized chloride of chromium can be applied, and cause its instant death without a particle of pain, or perhaps the best method is the application of the oil of thuja locally and internally.

If in the cavity of uterus, the os uteri must be dilated, and it may then either be snipped off or ligated.

In order to prevent a recurrence, a three months' course of oil of thuja.

Of all the different polypi polypus of the uterus is the most common. The ozonized oil of thuja is an infallible remedy for the removal of all polypi usually found in the hollow organs of the body; administered internally and, if practicable, applied locally.

The fact that uterine polypi grow rapidly during the period of gestation constitutes not a desirable complication, and it is best to get rid of the polypus as soon as discovered. There may be, and very likely is, a hemorrhage when a polypus is situated at the neck of the uterus and protrudes into the vagina. This menorrhagia may occur during pregnancy and lead to bad results, later on may interfere with labor. It makes little difference where located in the genital tract; dangerous complications are liable to take place.

When discovered, whether its pedicle be large or small, administer the ozonized oil of thuja. The remedy has no effect

upon the uterus. No other remedy is of any avail, no other treatment is necessary to cause its complete exfoliation.

POLYPUS OF THE RECTUM.—These growths are common among those of a tubercular diathesis, brought about by irritation. They are usually either soft, gelatinous or villous, or of the fibroid form.

Symptoms.—Uneasiness about fundament; frequent desire to go to stool; mucous discharge, tinged with blood. There is more hemorrhage in the villous form; they often protrude when bowels are moved.

Oil of thuja internally, oil of thuja suppository one every three hours.

POWDER MARKS.—Among the unpleasant accidents incident to patriotic demonstrations in commemoration of our nation's natal day is that of burns and powder marks due to carelessness or premature ignition of the common black powder, unconfined, or the explosion of fireworks and the discharge of toy cannons in close proximity to the faces of small boys.

Few accidents are more painful, and unless promptly treated they leave the patient marked for life in a very unsightly manner.

In presenting the following mode of treatment, we hope that those who have an opportunity to try it will find that it proves as efficacious as it has under our observation.

When called to a case have the patient put in a recumbent position and cover the area affected with gauze. If the face is the seat of injury allow for the mouth and nostrils. Cover the gauze with absorbent cotton saturated with sweet milk, which should be freely replenished so as to keep the parts thoroughly bathed for from five to ten hours, according to the severity of the case, after which time remove the cotton and gauze and wash the affected part with a warm, normal salt solution.

This will dissolve and remove a large number of the grains of powder, and many others may be picked out, but some will remain more deeply imbedded in the integument.

To these apply a small drop of croton oil with a toothpick or other instrument, being careful to prevent its spreading over unaffected areas.

Give strict instructions not to wash or rub the areas thus medicated, and in two or three days small pustules will have had time to form and dry into scabs, which will, in a majority of cases, contain the offending grain of powder. These scabs

may now be removed, and if carefully done will not leave any scars.

Should any be left after this treatment, pick the spot with some sharp-pointed instrument and apply the oil a second time, which will effectually remove every trace of the discoloration produced by the powder.

PREGNANCY.—Conception consists in the fertilization of the ovum or egg of the female by the spermatozoa of the male in the ovaria; then fecundation takes place. There must be a union of the two materials furnished by both sexes; that is, the spermatozoa must unite with the egg in the ovary and fertilize it; and the embryo results from this union. The spermatozoa is ejaculated into the vagina; the uterus, by inhibitory action and vermicular movements, takes it into its cavity, and passes it along the Fallopian tubes to the ovaries. It may occur without the patient being conscious of its occurrence or against her will. The most favorable period for conception to take place is either before or after a menstruation. After the ovum is impregnated it increases in size and becomes prominent on the ovarium; then absorption of its peritoneal coat takes place; and when free, is seized by the fimbriated extremities of the Fallopian tube and carried into the cavity of the uterus.

The ovum, as a general rule, is found in the uterus twenty days after the impregnation, sooner or later.

After the exfoliation of the ovum from the ovary an effusion of blood takes place into the cavity in which the egg was imbedded, and this is followed by a corpus luteum.

The human impregnated egg is very small, about the size of a dwarf pea. When impregnation takes place the internal os uteri becomes closed by a soft, gelatinous substance, and the internal lining membrane of the uterus throws out a flocculent or downy substance, which fills its cavity entirely. This is called the membrana decidua, and into this downy bed the ovum drops when it makes its exit from Fallopian tube, and, if not disturbed, will form its attachment near the point of ingress, and cause a growth of that part with which it comes in contact, and is called the decidua reflexa. So that the decidua is now divided into that portion lining and in contact with the uterus, called the decidua vera, and the other portion called the decidua reflexa.

The embryo then becomes covered with two membranes—the chorion and amnion. The amnion is an internal lining

serous membrane, which furnishes a fluid for the protection of the embryo—allows space, facilitates motion and development of the fetus, and wards off shocks, jars, concussions. The chorion, or outside covering, furnishes a means of communication with the uterus.

The ovum, after its establishment within the uterus, consists of the decidua, decidua reflexa, chorion, amnion, liquor amnii, fetus, and umbilical cord, with one extremity attached to the child, the other to the membranes at the point of attachment in the after-birth. The after-birth, or placenta, is a plexus of vessels by which the circulation is maintained between mother and child, and by which the latter is nourished. When of full size it is from six to eight inches in diameter, and its thickness varies from a line to one inch or more at its centre. It has two surfaces: one attached to the uterus, which is rough, spongy, traversed by ditches, and the fetal side, which is lined by the amnion, which is smooth.

For the first three months of intrauterine existence this twig of humanity is termed an embryo, the latter six a fetus. As soon as impregnation takes place the walls of the uterus become greatly infiltrated with blood, which increases the size of the vessels from being very small and convoluted to that of large and straight; the muscular fibres grow with perfect regularity. This increase of growth and development for the first three month there is a gradual distention of the body of the uterus, the uterus is so much that its broad ligaments are unable to hold it up, and it descends very low into the cavity of the pelvis, often nearly protruding. After the fourth or fifth month this difficulty is entirely obviated by the uterus floating above the pubes, and at six months it is still higher. After the fifth month there is a gradual distension of the body of the uterus, which encroaches upon the neck, distending it, merging it into the body, and causing it to become shorter and shorter, until, from the eighth to the ninth month, it is entirely obliterated; that is, merged into the body.

Signs and symptoms of pregnancy are divided into rational and sensible signs. The rational signs embrace:

First and second months. A stoppage of the menses, nausea, vomiting, flatness of the abdomen, depression of the umbilical ring, tumefaction and tenderness of the breasts.

Third and fourth months. In addition to the above there is now a slight fullness of the abdomen, augmented swelling of the breasts, prominence of the nipple, and discoloration around areolæ.

Fifth and sixth months. The disturbance of the digestive organs usually disappear, abdomen becomes well rounded and full, and the uterus can be detected above the pubes; fluctuation can be detected; and the color around the nipples becomes brown.

Seventh and eighth months. Abdominal tumor large; discoloration of the skin of the abdomen common; often varicose veins of the leg, labia, vulva; vaginal granulations; leukorrhea, pruritus, and real copper-color around nipple; and suppression of the menses through the entire nine months.

First half of the ninth month. Vomitings liable to reappear; the abdominal swelling is so great that the skin of the abdomen is stretched, tense; there is difficulty of breathing; edema of feet.

Last half of ninth month. Vomiting ceases; abdomen relaxes; uterus descends; there is less difficulty in breathing, but more in walking; often difficulty of urinating—sometimes suppression, in other cases an inability to hold it; often piles; varicose veins of the leg; pains in the loins; cramp in the legs, colic, etc.

The sensible signs embrace:

First and second months. Augmentation in the size and weight of the uterus causes that organ to descend low down in the pelvis; it cannot be moved easily; its walls touch the neck, which is directed downwards; the orifice or mouth is rounded, swollen, and a slight softening of the lips.

Third and fourth months. The fundus of the uterus rises above the pubes, and a rounded swelling can be detected by palpation. Making the patient stand up, and putting the finger on the os uteri, and lifting it up, it drops suddenly down on the finger.

Fifth and sixth months. The fundus can now be detected below the umbilicus; there are active movements of the fetus; fetal heart can be detected distinctly—indeed, it is very perceptible. The uterus can be mapped out, fluctuating, rounded; and the lower half of the neck of the uterus is softened, and the neck now begins to lose itself in the distention of the body.

Seventh and eighth months. The increased size of the uterus and abdomen; the fundus of the uterus is three finger-breadths above the umbilicus at the seventh month, four or five at the eighth; movements of fetus stronger; fetal heart very clear; neck disappearing in the body.

First two weeks of ninth month. The fundus of the uterus

reaches the borders of the false ribs clear up to the stomach; fetal heart very strong; neck of the uterus gone entirely into the body; the mouth of the uterus open.

Last fortnight. Fundus sunk low down; movements active; mouth of uterus open, soft, dilatable; the whole cavity of the neck becomes confounded with that of the body.

The entire period of pregnancy occupies nine calendar months or forty weeks. Time varies somewhat as to whether conception took place immediately before or after menstruation.

Pregnancy may be protracted in some rare cases; that is, carried out beyond two hundred and seventy-eight days, the interval between the last day of the menstruation and the expected confinement, and at least a fortnight more than this. There is no very exact time, or number of days, to which pregnancy may be protracted; still, it would be safe to maintain that in no case can it be prolonged over three weeks beyond the natural period.

Development of the Fetus.—Fifteen days after the ovum or egg appears in the uterus it is a gelatinous, semitransparent, flocculent, grayish mass; at thirty days, the size of a large ant, and from three to five lines in length; at six weeks, ten lines in length, about the size of a bee, but some of the organs, in a very rudimentary state, visible; at two months, two inches long, weighs two ounces, and ossification has commenced at some points; at three months, three and a half inches long, weighs three ounces; umbilical cord well formed, and genital organs distinct; at four months, five to six inches long, weighs from four to five ounces; at four and a half months, quickening, or motion is felt by the mother, or by placing the cold hand on the abdomen, and it is now from seven to nine inches in length, and weighs from nine to ten ounces; at six months, parts pretty fully developed and weigh from one to two pounds, and its length from nine to twelve inches; at seven months, all parts are perfectly developed; weighs from two to three pounds, and in length from twelve to fourteen inches, or more, and perfectly developed; at nine months, usually twenty inches long and average weight seven pounds; bones of head firm; ossification more complete, and all the organs capable of performing their natural function.

Some variation in the above, but it gives the general average.

There may be several eggs fertilized, so that there may be twins, triplets, or quartlets. Pregnancy may occur outside of the uterus, extrauterine; it may take place in theo vary, and

the embryo develop there; or it may be developed in the Fallopian tube, or in the adbomen, or the ovum may find its way into the muscular coat of the uterus and be developed. The consequences of such are usually serious, causing inflammation, ulceration, suppuration, internal hemorrhage, and death to the mother.

When pregnancy takes place, and the woman knows she is in that state, she should eat the best of food, take moderate exercise, but avoid hard work or any strain, and, above all, keep her bowels regular by eating sufficient fruit, or else enemata of milk and water. She should make a regular habit of either sponging or bathing the entire body once a day. All gloomy or idle fears should be banished; no tales of woe or sorrow told in her presence; her surroundings should be of the most agreeable kind, and she should place her trust in the benevolence, mercy, and wisdom of her Creator. Her clothing should be flannel, next the skin, at all seasons; she should have abundance of sleep, and all symptoms in this state should be managed with as few drugs as possible. The sickness of the stomach is one of the earliest of all symptoms, and should be treated with the plainest bitter tonics.

THE VOMITING OF PREGNANCY.—The morning sickness, with or without vomiting, is one of the earliest and most persistent of all the symptoms of pregnancy. It is due to a great variety of causes; it may be purely reflex, an irritation transmitted from the uterus to the co-ordinating chemical centre at the base of the brain; this is the most common kind—a morbid enervation, a reflex sensation. This is frequently bad, and sometimes fatal; it usually ceases after four and a half months, but may continue all the time. It is arrested when the fetus dies, or by abortion, miscarriage, or delivery, at full time. It is not accompanied by any grave disorder, except deficient secretion.

Other cases depend in a great measure upon a catarrhal condition of the salivary glands of the mouth, salivation, catarrh of the stomach and duodenum, and slight jaundice, and those cases are very liable to abort. But there are other kinds of vomiting which prove fatal suddenly and unexpectedly, without any apparent cause. Vomiting is sometimes due to a degeneration of the glands, such as the liver and kidneys, which is common in healthy pregnancy and nursing. Like the watery blood of a pregnant woman, it is not called a disease, but a normal condition. This degenration, however, is dan-

gerous to women in a variety of ways. In nearly all fatal cases of vomiting, during or immediately after pregnancy, there is less or more jaundice or uremia; in these the liver and kidneys have suffered, and the fatal result is preceded by lethargy, coma, if not a discolored skin. Here death results from a granular degeneration. Even slight vomiting and jaundice, with or without albumin in the urine, are dangerous and often fatal in the puerperal state. Decided yellow atrophy of the liver is only present once in a thousand cases of pregnancy, whereas uremia is common once in five hundred cases. Still there are a minor class of cases that must be looked upon with suspicion. These conditions are not to be laid to pressure of the gravid uterus upon either the liver or the kidneys, for such does not exist, if at all, until the later months. No definite line of treatment can be laid down for any one case. Remedies must be tried, and if found successful persevered with.

The recumbent posture should be maintained till one hour or more after the morning or other meal. Bowels must be kept regular.

A cup of strong coffee, or caffein, or guarana, could easily be tried; often acts promptly.

Carbonic acid gas acts as a stimulant to the base of the brain, and could be tried in the form of champaign, apollinaris or clysmic water, soda water, or tartaric acid and soda.

Pure stomach sedatives are to be found in the oxalate of cerium in five grain doses thrice daily; or in the secondary action of ipecac in one-eighth-, not more than one-fourth-grain doses thrice daily.

Pepsin and ingluvin before meals are often of great utility in arresting the vomiting, and deserve a fair trial. Whichever is selected should be given in large doses; they often act like a charm. There can be little doubt that before meals is the best, and in large doses, so that the stomach will make as little demand on the anemic nerve-centre for secretion as possible.

Hot applications over the stomach may be tried. Milk and lime-water in small quantities. Bitter tonics, as chamomile flowers, columbo, made into a tea and drunk before meals, are sometimes of service.

Depraved Appetite.—An abnormal form of appetite, in which there is a craving, or longing, or intense desire, for very remarkable substances, as sand, cinders, slate-pencils, chalk, clay, coal, sponge, candies, and other articles.

The primary cause is no doubt one of nervous prostration or

exhaustion in the co-ordinating chemical centre in the brain, bulb, and cord, brought into activity by pregnancy, uterine irritation, chlorosis, masturbation, worms, or some reflex irritation transmitted to those weakened or anemic parts.

There is usually associated with it pallor, anemia, mental depression, emaciation, colicky pains, diarrhea, acidity, and symptoms of nerve-tire or debility.

The best remedies are port wine and Peruvian bark; bitter tonics, as golden seal; moderate exercise and healthy amusements, bathing, friction, and other means to improve the health.

If not pregnant, more active measures should be resorted to, as seclusion, rest, massage, electricity, general alterative and tonic course for a few months.

GENERAL SYMPTOMS OF PREGNANCY.—The large proportion of the symptoms of pregnancy are reflex; that is, they are dependent in a great measure upon some loss of tone, or weakness of the co-ordinating chemical centre at base of the brain; or impaired vitality of the medulla oblongata, or debility of the spinal cord; and when pregnancy, or any condition of molecular activity of the uterus takes place, the excitement is transmitted to the bulb and cord directly from the uterus to those centres, and thence to the weakened nerves; hence we have toothache, salivation, if the nerves of the mouth are weak; nausea, vomiting, headache, heartburn, water-brash, constipation, or diarrhea, if the nerves of the stomach have suffered a partial loss of vitality; or there may be faintings, loss of voice, difficulty of breathing, sleeplessness, hypochondriasis, convulsions, difficulties of sight and hearing; chorea, epilepsy, and neuralgic pains in the breast or elsewhere.

Now, with reference to all these and numerous other symptoms, we say palliate them the best you can, and, above all things, avoid medication in pregnancy if possible. Most physicians treat those cases shamefully by pretending to give drugs, while they are simply sugar pills, or sugar of milk, so as to operate on the credulity of the patient and her friends. This is very wrong; it is taking money under false pretence.

No nitrous oxide gas should be administered for the painless extraction of teeth, because the nitrate of ammonia, of which it is composed, increases the alkaline constituents of the blood, and is very liable to cause abortion. The pain of toothache can be relieved by the local application of morphia, or aconite, belladonna, and chloroform.

Symptoms of indigestion can be relieved with pepsin or

bitter tonics, diarrhea arrested with the opium and tannin pill, and constipation relieved by fruit. In cases of loss of voice, it can usually be relieved by inhaling the vapor of warm water with a little ammonia; fainting or difficulty of breathing can usually be ameliorated by some diffusible stimulant; sleeplessness or hypochondriasis, by extract of hops or coca; and neuralgic pains in the breast, by heat.

With Regard to Convulsions, Epileptic Fits, Chorea.—The best plan in all cases is to suspend them, and let pregnancy take its chances. When we estimate the devastation that these would, if permitted to continue, produce in the nervous system of the mother, there can be little doubt about the use of our most powerful remedies to prevent them; and those very drugs are abortive in their action, because it is really impossible to treat those fits with success without bromine, iodine, potassa, snakeroot.

Irritable Bladder.—In a large percentage of cases, where a pregnant female wants to make her water every few minutes, it is due to the presence of uric acid in the urine, which can be remedied by a change of diet and benzoic acid, without the use of other drugs, that might be likely to injure the fetus or cause the patient to miscarry Still, the irritation may be due to something adjacent, as caruncle of the urethra; lupoid, or other ulcers around the hymen; sympathy from an inflamed uterus, rectum, or other adjacent parts; and other forms of irritation. If the case is bad, it must be remedied at all hazards, the mother's life being paramount in all cases. Mild but efficient means must be resorted to, as alkalies, as sweet spirits of nitre, to keep urine alkaline; suppositories of belladonna and opium, and general treatment as laid down under that head.

Menstruation During Pregnancy and Lactation.—The appearance of the menses during pregnancy or lactation, or both, is to be looked upon as a grave condition, which weakens the mother and impairs the vitality of the child, causing it to be very tubercular.

The causes that have rendered this so very common these last twenty years are somewhat obscure. Some attribute it to the excitement incidental to a state of high civilization, with its worry and care; others assert that it is the influence of the modern class of literature, which has wrecked the framework of the female organism; others, to the sewing-machine and like occupations; while another class claim it to be caused by sexual excesses and stimulating diet. Certainly it is some defect

of modern civilization, for thirty years ago the condition was unknown. Occurring during pregnancy, it is to be carefully distinguished from those cases where the after-birth is over the mouth of the uterus, when, after the fifth or sixth month, there is a bloody dribbling from the uterus daily.

The appearance of the menses during pregnancy and nursing is to be regarded as a weakness or want of vitality of the uterus and ovaries, and every possible means taken to arrest it by proper treatment. The patient must avoid all excitement; take a good deal of rest; not to use sewing-machine, nor go to shows, theatres, balls; not to read light or fictitious literature, but solid history; and avoid other causes. She should eat well; have perfect freedom from worry, care, or work; take the struggle for life easy; and as remedies, the cold-water hip-bath; port wine and Peruvian bark, the viburnum compound, the mother's cordial, the stylosanthes—one of those remedies taken three times a day. The stylosanthes has a most remarkable quieting action on the uterus; although not much used, it is here invaluable. Use remedies persistently until it is arrested.

ALBUMINURIA, OR DROPSY, IN PREGNANCY.—Bright's disease of the kidneys often makes its appearance in pregnancy. The question at once strikes one: What has the kidneys to do with the uterus? The urinary and genital organs are closely connected, so much so that they sympathize strongly with each other. True, the dropsy and albuminuria are most common after the four and a half months, when the uterus floats up, and to some extent, presses on the kidney. Those cases are to be looked upon as very grave; they usually involve the death of the fetus, by causing a disease of the after birth from the watery condition of the blood present, and latterly the death of the mother. The usual course of treatment cannot be adopted, as it will cause abortion and fatal results. In some rare cases, benzoic acid causes a rapid disappearance of both albuminuria and dropsy. It is given in ten-grain doses thrice daily. Astringent tonics, as port wine and cinchona, or port wine and gallic acid, may be tried.

PRURITUS OF THE VULVA.—The distress that pregnant women sometimes experience from itching about the entrance of the vagina is often terrible.

The cause is one or other of two things: either the sugary pabulum of diabetic urine, or the alteration in the nutrition of the parts from neurosal impairment, or the two combined.

In all cases there is a fungous organism present, and requires the use of a parasiticide.

Boracic acid is the best and safest remedy. It is well not to use it with glycerin, as the glycerin has such a strong affinity for water, and often aggravates. A strong decoction of poppies or elder-flower water can be used with advantage, and they form excellent vehicles for the boracic acid. The boracic acid is excellent, but not so soluble in water as the plain borax. No internal treatment of any use. The difficulty disappears as soon as confinement is over, the sugar disappearing from the urine.

Eruptions and Excoriations about the Pudendi are usually of the character of eczema, and it is also due to the saccharine urine dribbling down, and acting as a local irritant; and when the eruption is once caused, this renders it intolerable and intractable, and excessively irritating in this region, and often incurable as long as the pregnancy exists. The changing of the diet, forbidding sugar, and using light animal food, with eggs, milk, fish, etc., does not do much good. Vaselin or ozone ointment can be smeared over the part three or four times a day. It will palliate the irritability at least, which is about all that can be done. The difficulty disappears promptly as soon as labor is completed.

Any cracks or abrasions should be treated by an infusion of poppies, followed with ozone ointment, which should be used freely.

Piles are usually the result of liver trouble, and must never be treated by sulphur, nux, mandrake, or other liver stimulants, because those drugs are active abortive remedies. Keeping the bowels regular with fruit, diet, or senna and prunes, and local cold-water baths, is all that should be attempted.

A watery or other discharge from the vagina may be relieved with port wine and cinchona.

Swelling of the labia is to be relieved with rest.

Varicose veins of the limbs to be relieved by a bandage or elastic stocking during the day, and the limb bathed morning and night, well dried, and then rubbed with extract of hamamelis.

Cramps in the limbs are to be relieved by rubbing.

Inability to hold the urine, or retention of urine, is usually due to pressure and debility. Rest and the use of the mother's cordial, or the viburnum compound, relieve this difficulty.

Although we thus deprecate drugging during pregnancy,

and recommend palliation and rest, yet it is not good to the health of a pregnant mother that she house-up too much. She needs gentle, moderate exercise and change, as conducive to a high state of mental and physical vigor. She should not exhaust her body by work, nor her brain by worry or study. She should cultivate the higher and holier attributes of her nature; avoid as much as possible sameness or monotony. Avoid literary pursuits above all things, as it wearies the mind and arrests brain development in her offspring.

Undue tightness of the abdomen is best relieved by rubbing it with warm olive oil once or twice daily.

SPURIOUS PREGNANCY.—This is a peculiar condition, which sometimes gives rise to all the symptoms of true pregnancy, even the morning sickness, the suppression of the menses and the progressive enlargement of the uterus having a perfect resemblance to a genuine gravid uterus. It will even communicate the sensation of movement, or tenderness on pressure, and dullness on percussion; the breasts may increase in size, and even secrete milk, and the progressive enlargement of the abdomen may continue for nine months, and the phenomena of labor supervene. The pains may even come on and succeed each other, becoming stronger and stronger, and latterly ceasing by a return of the abdomen to its natural state, and perhaps a slight fever. On an inspection of the tumor, it is most generally in the centre of the abdomen. The navel is more protruded; there are no striæ over the abdomen. On feeling it with the points of the fingers, the tumor is elastic, and its boundaries can be traced easily. It has no connection with the liver, spleen, ovaries, or uterus; no sign of fetal heart or rumbling noises.

The cause of this phantom tumor is some exhaustion of the cord, bulb, and base of brain—a true condition of anemia, exhaustion, and irritation which is transmitted to the diaphragm and other abdominal muscles, which causes contraction and gives rise to an appearance exactly resembling a body, or gravid uterus, or tumor. If there is any doubt about it, place the patient under chloroform, when the contraction will entirely disappear. In such cases, when carefully examined, it will be found that the general health is feeble; there is great exhaustion of the nerve-centres, or strong hysteria. We use the term because we have no other by which we can describe the morbid condition of the cord that is present. There is likely to be associated with it irregular uterine functions, dyspepsia, ovarian

irritation, or some form of chronic disease. Same treatment as for hysteria.

Deformities and Mutilations.—It may be laid down as a general rule that all deformities, such as harelip, club-foot, imperfect arms, etc., are due to incompatibility of temperament or close consanguinity; whereas mutilations, monstrosities, are due to shocks, frights, impressions, sights made upon the mother during the embryonic period, the first three or four months of intrauterine life. Probably amputations of the arms or limbs may occur later. The prevention of deformities is in the hands of the parties entering the matrimonial field, and should be regulated by stringent laws; whereas the prevention of mutilations is in the hands of the mother alone; she should avoid reading all dime-novels, fictitious literature, going to theatres, witnessing the killing of fowls or animals, or of seeing, hearing, or feeling, any strange or abnormal thing that would be likely to vividly impress her.

The question is often asked, Is there a microbe in pregnancy? No doubt there is a toxin generated in all cases, either by a germ or by changes incidental to that condition. No microbe has been as yet found; nevertheless there is a toxin formed in the blood, which gives rise to headache, toothache, perversion of appetite, vomiting often severe, uncontrollable albumin exhibiting damage from a poison upon the kidneys, which irritates, lowers nutrition, causes spasmodic constriction of the arterioles, either by direct irritation or through the vasomotor centres; as it passes off gives rise to uremia. The poison has defied detection, yet its presence can be demonstrated beyond question. It may be absorbed from the bowels; the liver may be at fault, which, besides its glycogenic function—urea-forming function, is charged with neutralizing toxins, which find their way into the circulation. Uremia is a retention of toxic bodies in the system. Every pregnant woman should take daily wine of aletris farinosa ozonized. It is of definite and immediate advantage.

It relieves every symptom, even gastro-intestinal catarrh, the mother of intestinal toxins; it protect the system, imparts tone and vivacity to the nervous system, strengthens the heart muscles. Pregnancy, or its toxin, bears heavily upon the heart; it is not the strain of labor; there is something else in that state prejudicial to a weak heart, depreciating cardiac vigor, and that something is completely overcome by a liberal use of the ozonized wine of aletris farinosa.

PRIAPISM.—Erection of the penis, not transitory, but permanent.

1. Priapism observed in infants and children, induced by reflex action, in cases of long, light, adherent prepuce, of stone in the bladder, or prostatic urethra, and of worms in the rectum.

2. Priapism in adults symptomatic of stone in the bladder, stone in the prostatic urethra, stricture, cystitis, and observed during retention. In these cases the uneasy or painful sensation is felt in the glans penis, while the body of the organ usually is only moderately congested, and sometimes curved downward or laterally. This condition disappears upon the removal of the cause.

3. Priapism symptomatic of gonorrhea, with perhaps involvement of the corpus spongiosum and downward curvature. This condition is painful and transitory, and may occur several times during the night. In cases of downward curvature of the penis, due to inflammatory engorgment of the corpus spongiosum and spasm of the musculature of the urethra, the term chordee is applied.

4. Priapism due to the ingestion of cantharides is a form that is seldom or never seen now, since this drug is so rarely used in medicine.

5. Essential priapism may be divided into four varieties: (*a*) Priapism caused by injury to the spinal cord (either high or low down), and by blows or violence inflicted upon the perineum; (*b*) priapism which is a symptom of the cerebral or descending spinal cord disease; (*c*) priapism which occurs after alcoholic and sexual excesses; (*d*) priapism which comes on a person in ill health, in whom it is difficult to obtain data as to local injury and causation, and in which cases there is now a tendency to look upon leukemia as the etiological factor.

In all cases, irrespective of cause, administer equal parts of tincture passiflora incarnata and green root tincture gelsemium; small doses, but very frequently administered until this disturbing symptom is relieved.

PROLAPSUS.—The falling or displacement of organs from their natural position is not uncommon, in parts that are either weakened or devitalized, subject to pressure.

PROLAPSUS OR FALLING OF THE RECTUM is quite common. Protrusion of either the mucous or muscular coat of the bowel is due to debility; and produced by straining at stool, due to constipation, or the tenesmus of dysentery; irritation of ascarides, piles, or enlarged prostate.

In all cases, the bowel should be immediately returned, if possible; for if not returned it becomes swollen, greatly tumefied, and covered with an epidermis.

If unable to return it the sphincter should be placed under the influence of belladonna in the form of a cerate, and if it does not act speedily cocain also should be used; once returned, it should be kept in position by a pad or compress and a T bandage.

Then the contents of the bowel should be rendered soft by the internal use of the fluid extract of juglandis, and injections of some astringent, as either decoctions of the witch-hazel or oak-bark, or hydrastis, or perchloride of iron, or the following rectal tonic: Take one ounce of aromatic sulphuric acid, one dram of sulphate of quinine, dissolve the quinine in the acid, then add sixteen ounces of water. Inject three teaspoonfuls twice daily.

If after a proper course of treatment with these and like remedies, all fail, the contents of the bowel should be removed with castor oil, after which an anal speculum should be inserted and through its window seven vertical streaks made at equable distances by fuming nitric acid, bowels locked up for a week with opium. If perfectly performed this usually effects a radical cure.

Prolapsus of the Womb.—There are three principal forms: (1) simple prolapsus; (2) anteversion; (3) retroversion.

In simple prolapsus the womb, situated in the upper and middle part of the pelvis, is but imperfectly secured in its natural position; hence it sometimes descends, so as to pass more or less downwards in the vagina, or even protrude beyond the vulva.

Protrusion of the uterus gives rise to distress in both bladder and rectum; bearing down; dragging in the loins, aching in the thighs, aggravated by the erect position.

In the successful management of such cases, two points are essentially necessary to be observed to return the organ into its natural position and maintain it there. For this purpose strengthen the walls of the vagina, brace up the broad ligaments, improve the general health.

In all relaxed, devitalized states of the vagina the mucous coat is literally swarming with the germs of disease, which give rise to an endless variety of leuckorrheal discharges, which, if not eradicated, go on weakening this structure; hence, to a scientific

mind, mechanical support is inoperative and injurious, and should be dispensed with except in rare instances.

To strengthen, tone up, promote a renewal of life in the vaginal walls and contract the broad ligaments, the remedy is the use of the nymphæ odorata pastils. By their use all germs and leuckorrheal discharges disappear, and there is no use for womb supporters.

To still more effectually vitalize, matricaria comp. before meals and the wine of alteris farinosa after meals.

Practitioners will find it of utility in all weakened states of the reproductive organs to produce leukocytosis by the nightly introduction by the protonuclien suppository and follow up the cure with thyroid extract and c. p. solution of spermin, which is the ultimatum of gynecological science.

ANTEVERSION OF THE UTERUS.—The fundus falling forward. Rare. Those of pressure of urethra or rectum; tumor in anterior wall of vagina; with retention of urine, and constipation. Vesical calculus; retroversion; pelvic tumors; ovarian tumors.

RETROVERSION.—The fundus falling backward, the cervix impigning against the urethra; in less degree, the fundus being only tilted back, termed retroflexion. Derangement of menstruation; aching pains in loins and back; tumor in posterior wall of vagina. Dyspepsia; hysteria; retention of urine; constipation.

Diagnosis.—Tumor in pelvis; ovarian disease; anteversion; ascites.

Both conditions must be rectified by mechanical support.

INVERSION OF THE UTERUS.—The organ descending, and turned inside out: (1) partial; (2) complete. May occur immediately on delivery; a few days after parturition; or gradually, from weight of a uterine tumor; sudden and alarming exhaustion; paleness; pulse rapid, small and fluttering; vomiting; often violent uterine contraction, as if to expel a second child; globular, elastic tumor in the vagina, or protruding from the vulva; in the gradual form, symptoms less marked. Seq: Exhaustion; fatal hemorrhage; cystitis; gangrene of the inverted portion; sloughing. Polypus; uterine and vaginal prolapses. Fatal, unless speedily reduced. This must be done by gradually returning the superior part, by grasping it with the hand, and making the rest follow.

PROSTATE GLAND.—In inflammation of the substance

of the prostate, besides the symptoms of granular prostatitis, there are aching or stabbing pains in the anus, sacrum, or perineum; pain at the suprapubic region is a common sign. There are also radiating lumbar or femoral pains after exercise or long journeys, languor, malaise, or depressed spirits. Increased frequency of micturition is often absent; when present, it is felt by day, not by night. The flow of the urine is altered by delay at the beginning, which may amount to retention. Dull pain after micturition, sometimes spasm at the end of the flow, with a sense of more to come, are complained of. In cases of long standing, micturition during sleep is a symptom,—constipation is almost invariable. When the congestion is great, there is pain during defecation and between the acts a sense of weight at the anus or in the perineum. Pain in the testes when it occurs is simply a neuralgia. There is constantly hypersecretion of mucus.

In some patients, the organ recovers its natural condition in a few weeks; but usually the disease drags on a course more or less wearisome; thus the termination is very uncertain. Relapses are almost sure to follow if the patient exceed in his diet or *régime*. In relapses small abscesses often collect in obstructed ducts, which usually empty themselves through a duct before accumulating much. Sometimes the inflammation spreads to the parenchyma, and the prostate then becomes unyielding to the touch, hard and sensitive. The enlargement of the organ may last long. The increase in size may be symmetrical, or only affect one part, giving the sensation of irregularity or lobular form when felt by the finger. In course of time, the nodules may disappear, and the organ regain its natural size, or even shrink below it, and feel quite firm and smooth.

The treatment of all forms of prostatitis is always obstinate and tedious—of the many remedies in use, few are trustworthy. General treatment assists the local remedies. General alterative and tonic course. If the cause of the inflammation be due to sexual excesses, the introduction of bougies, cyclism, gonorrhea, insist upon rest and the general treatment of inflammation.

The prostate is a purely sexual gland, coming into activity at puberty, liable to damage from many causes, hence a diseased prostate is the most common of all maladies incidental to the male.

Irritation, effusion of lymph into its structure, its organization into fibrous tissue, excessive growth, hypertrophy.

It is superfluous for us to state that masturbation, imperfect coition, withdrawal in the act of ejaculation, congress with women of the town, sexual incompatibility, gonorrhea, with its common sequel inflammation of the seminal vesicles; bicycle riding, sedentary habits, horseback exercise, are most productive of an enlarged prostate; age, with its degenerative changes, has now little to do with its approach, for we find it common in young and middle-aged men.

An enlarged prostate gland is a source of much tribulation to its possessor; reflexly the brain suffers; also all the genito-urinary organs—irritable bladder, the evolution of the micrococcus ureæ, frequent nocturnal micturition, obstruction, etc.

The relief or cure of an enlarged prostate by oral medication is a failure, even with the most efficient remedies; hence its removal by a surgical procedure has been attempted, but few survive, as it is an operation of great danger.

It has been known for many centuries that if the testes were removed the prostate gland would atrophy, and all the distressing symptoms of hypertrophy would gradually disappear. Castration has been tried, as it is an operation comparatively devoid of danger to life; it is thought well by some, although it completely wrecks the cerebrum. Once the spermatic cord is cut, there is a mental death, the brain fissures of thought suffer obliteration; the pulse rate is lowered, never again to be regained, for intense mental depression, melancholia, mania, follow rapidly for want of the internal testicular secretion; so that neither removal of the gland itself nor the testes can be of any real benefit to suffering humanity.

To some extent the intrinsic value and efficacy of the internal secretion of spermin can be compensated for by the administration of the protonuclein and c. p. solution of spermin and a course of direct medication to the prostate per rectum.

Internally tonics and the best of nutrition, locally enemas twice daily of either a decoction of slippery elm or linseed, medicated with either boroglycerid or dioxide of hydrogen or both; following these insert a boroglycerid suppository, and in one or two hours later insert an ichthyol suppository. The action of the boroglycerid on the rectum is sedative, anesthetic; the action of the ichthyol is that of a powerful absorbent. In two or three weeks there is a great change for the better, for there is usually a rapid absorption of organized lymph, a subsidence of congestion; cystitis disappears, the phosphatic bladder deposits disintegrate.

PROSTATIC HYPERTROPHY AND ATROPHY.—This occurs in 85 per cent of all civilized men, and is usually either the result of prostatitis, cystitis, calculi, excess of uric acid or phosphatic deposit, congestion of the kidneys, badly cured gonorrhea, strong injections, careless introduction of bougies or sounds, stricture, masturbation, wearing condums, withdrawal in the act of ejaculation, excess and incompatibility or sexual connection with prostitutes, or with women with large vaginas, inebriety, licentiousness, dalliance in coition, constipation, rectal disease, sitting on the cold earth or stone, or, in other words, whatever increases the circulation in those parts beyond a healthy standard; besides, blood-vessels lose their tone in the decline of life and under mental strain or worry of a high grade of civilization. Besides, in all men of a lymphatic or gouty diathesis, in middle-aged or old men there is a natural tendency to enlargement from the presence of uric acid and lithate of soda in the blood.

From whatever cause the enlargement may arise, it is progressive, and may involve the whole gland, the middle or one or both lateral lobes. As a general rule, whatever the cause may be which gives rise to it, the middle lobe does not appear to suffer so frequently, and is tardy at taking on enlargement even when the two lateral lobes are considerably engorged.

When the middle lobe begins to enlarge it closes up the entrance into the bladder, and presses inward toward the cavity of the bladder, putting the internal lining membrane on the stretch, and carries with it, by immediate continuity, the inflammation which causes its own enlargement.

Whatever may have been the original cause, masturbation, excesses, gonorrhea, etc., there is an irritation, inflammation of the entire mucous membrane from the orifice of the urethra to the kidney; the inflamed state of the lining membrane of the bladder and prostate gives rise to irritable micturition, particularly as the last few drops are voided and a desire and straining to make more, although the bladder is empty or there may be but a dribbling, with constitutional disturbance.

In the majority of cases the difficulty lies with the middle lobe, and as this increases in size it projects into the cavity of the bladder in the form of a nipple, pushing the membranous covering and that in close proximity before it, so as to put it on the stretch in the direction from the ureters to the verumontanum. In its gradual enlargement it loses its nipple-like appearance, becoming broader from side to side, and ultimately involving the lateral lobes.

As the enlarged prostate is located immediately behind the orifice of the urethra, every time micturition is performed the anterior portion of the bladder is pushed forward, bladder contracted, retention of urine, never completely emptied, great pain; straining efforts at micturition accelerate the progress of the hypertrophy.

As the enlargement progresses, rectum and bladder grow more irritable, dribbling, retention; cavity of bladder distended.

Revert to the bladder, the trigone or floor of which is highly sensitive, contains very few muscular fibres in its composition, so that just above the prostate muscular contraction can hardly be said to exist. Assuming then that the prostate is irritated, that a partial retention of urine occurs from some cause, habit, position of the body, loaded rectum, or weakness connected with advancing years, the trigone or non-contractile part of the bladder becomes prematurely depressed or altered in form, so that the person finds himself unable to get rid of the last half ounce of urine—the effect will be frequent repeated efforts to throw it off; these devitalize the muscles adjacent and render them destitute of contractility.

This condition leads to hypertrophy or thickening of the prostate and all the tissues around, with an irresistible desire to empty the bladder as a constant and annoying symptom.

The quantity of urine which is retained varies greatly, but let it be small or large, a micrococcus uræ is generated, a pathogenic microbe which breeds freely, acts as an additional irritant, tending to greatly aggravate the disease.

The patient is in constant pain and distress, great constitutional disturbance, progressive enlargement continues.

As the seminal ducts open into the urethra in its prostatic part, and as these ducts traverse this gland, seminal weakness and irritation are invariably present; so irritation of the prostate leads to the production of spermatorrhea, impotency, and complete retention of urine.

The secretion from the whole gland is abundant, viscid, ropy. Its quantity depends upon the amount of irritation, the act in straining; its tenacity varies; often has an offensive odor.

The effects produced on the coats of the bladder by an enlarged and still enlarging prostate are thickening of the walls, contraction, with its internal lining membrane throwing off shreds of the thick, coagulated pus.

Enlarged prostate with obstruction to the act of micturition predisposes to numerous grave affections, as formation of cal-

culi when the bladder is unable to empty itself, especially if the middle lobe is enlarged and the orifice is blocked up, so that it is impossible for urine heavily charged with uric acid, triple phosphates to make an exit.

As a general rule less urea is excreted, hence there is a state of uremia existing at all times. The reflex effect upon the nervous system is most disastrous, as is exhibited in the mental disquietude, irritability and restlessness.

The facts in connection with uric acid in enlarged prostate may be summarized as follows: It is manifest that the uremic condition is dependent upon a failure in the proper performance of the functions of the kidneys. That, in consequence of this failure, certain matters accumulate in the blood and the tissues, the most important being uric acid. That the amount of the retained uric acid, all things being equal, is proportionate to the uremic poisoning. That when urea is introduced into the blood, under conditions which preclude its elimination, it is followed by uremic poisoning. Lastly, that the introduction of no other excrementitious matter, as far as is known, is succeeded by like symptoms.

The affection is of easy recognition: the frequent and urgent desire to urinate and thus relieve the bladder; a scalding in urinating; a sense of fullness, weight in the perineum, rectum, and at stool, a feeling as if there were some body to pass. Pains radiating through the hips and thighs, a constant sense of uneasiness about the loins. Besides, the enlarged prostate can be felt per rectum.

An examination of the urine, and also of the residual urine which is retained in the bladder, will exhibit the microbes of micrococcus ureæ, and an intense uriniferous odor. The microbe of ammonia in fermentation of urine is ever present.

The presence of this fungus in the urine indicates an alkaline state of that fluid, and is almost invariably present in hypertrophy of the prostate. The presence of this fungus gives rise to an increased sensation of fullness or discomfort in the perineum, increased during defecation, aggravated by standing, walking and sexual intercourse. Usually a loss of power of seminal emission.

It is clear that the influence of the testes upon the growth and maintenance of the characteristics of the male sex is a property independent of their power in producing spermatozoa, and the very remarkable fact is established that the spermatozoa-producing faculty of the testes is not necessary for the vital-

izing influence which those organs exert upon the rest of the body.

The natural involution of the testes in the aged is unaccompanied by any corresponding change in the system, but if the testes in an elderly man be removed, the prostate and accessory glands wither, atrophy, disappear, and the mind weakens.

This idea has been taken advantage of by the introduction into surgical practice of the removal of the testes as a radical cure for enlarged prostate. As far as it goes the operation is a success so far as it atrophies the prostate, but it removes the seminal cells which secrete a substance which is reabsorbed, has a most remarkable influence upon the nerve-centres, controlling growth, nutrition, sex.

Since the inauguration of the germ theory of disease, there has been an immense impetus given to scientific medicine, so much so that a complete revolution has taken place, and the materia medica has been searched for a remedy to diminish the size of the prostate, one capable of completely annihilating its growth, of absorbing its adventitious matter.

To a certain extent success has attended in the production of the ichthyol suppository, which if properly managed will do the work.

Patients are naturally impatient; medical men are doubtful, often hesitating, but if they could only be induced to enter the field with the same positive assurance of success as the surgeon, the prestige of ichthyol in enlarged prostate would be a success.

For the exhibition of this suppository the bowels should be flushed, then a cocain or boroglycerid suppository should be inserted, preceding two hours the insertion of the ichthyol. The cocain or boroglycerid used in that manner produces a complete anesthesia of the rectal nerves. Then the ichthyol should be inserted.

Usually in four or five days of its use the patient can urinate without the catheter.

Once commenced, the entire procedure should be carried out daily until the prostate has been reduced to its normal size.

We are opposed to the castration of all our old men and many young ones, because the mutilation deprives them of all the characteristics of manhood and gives rise to insanity, but we are in favor of castration of every epileptic or insane individual who is so afflicted as the result of masturbation.

Use with care, all the necessary precautions, and give ichthyol a trial, for it will reduce the size of the prostate, induce

atrophic changes which terminate in permanent reduction. It effects this by causing the cessation of congestion, by diminishing the blood through the gland, causing contraction of the walls of the vessels, exciting reflex muscular spasm, which operates like the black willow bark.

The present state of our knowledge does not justify us in removing the testes at the risk of precipitating dotage or mania.

Hypertrophy of the prostate is associated or caused by stricture of the urethra, an obstruction to micturition, in which considerable force is necessary to expel the urine. This causes the muscular coat of the bladder to become thickened, hypertrophied; in which bands of lymph are thrown out, sacs form which retain urine. This sacculated condition may extend over the entire inner wall of the bladder. These sacculi vary much in size, some become capacious, others quite small. Whatever be their size, they retain residual urine, which undergoes decomposition; an evolution of the micrococcus ureæ takes place, the toxins of which produce cystitis and other grave symptoms. Suppositories of boroglycerid, urethral bougies of iodol; inject bladder once daily with ozonized witch-hazel, one ounce to four of tepid water, with uric acid solvent internally.

This is rather a gloomy view in a national point of view, because a damaged prostate is the inevitable precursor of a diminution of sexual vigor and impotency.

A normal prostate is composed of fibrous tissue, gland structure and involuntary muscular fibres, but in the hypertrophied organ the normal proportions of the several constituents are seldom preserved. In most cases the fibrous tissue is increased more than the glandular and muscular structures, and the organ is thus more dense and firm than normal.

The enlargement may take place in the entire gland; all its three lobes may be equally affected, although it is much more common to affect the left side first, and subsequently involving the entire three lobes. The extent or size of the enlargement varies much, but even a slight degree of enlargement not infrequently causes as much trouble as a more decided hypertrophy.

The most eminent authority says that when the hair becomes gray and scanty . . . the prostate gland becomes increased in size, and this irrespective of age. Nine men out of every ten have enlarged prostate, and one atrophy, ages varying from thirty-five to seventy-five respectively, the result of early indiscretion, or masturbation, or excess, or perversion of the

sexual act, or from bicycle riding, horseback exercise, improperly cured gonorrhea.

In atrophy, in which we find the gland withered, blighted, damaged by contact with lewd women, atrophy gives rise to urinary trouble, either a frequency or dribbling, a lack of propulsion.

For atrophy there is probably no better remedy than the saw palmetto suppository The rectum flushed, passed, this remedy inserted, lying right over the prostate, where it melts, and by endosmosis enters the gland, and plays the part of a nutrient tonic; at the same time, orally, we must never overlook the value of thyroid extract and c. p. solution of spermin as vital constrictors.

Hypertrophy of the prostate gland is now very common, nine men out of every ten being less or more affected, and that, too, at a very early period of life, about thirty. So early, so disastrous to manhood.

The causes which induce this are masturbation, excesses, perversion of the sexual act, wearing condums, gonorrhea.

Twenty years ago enlargement of the prostate was a disease of late life, being rare till fifty-five, more frequently sixty-five. It may be enlarged as a whole, or merely one or other of its lobes; in degree, small or large, the former not infrequently cause as much trouble as the large. In much enlarged prostates, well-defined tumors are often found, made up of condensed fibrous tissue, varying in size from a pea to that of a walnut, commonly encapsulated, and often calculi can be detected in their centre.

With all our vast advances in therapeutics, little, very little, has been effected for this malady.

The causes which give rise to wasting of the testes are almost identical with those that give rise to atrophy of the prostate,—blows on the head, falls on the spine, jars, shocks, concussions; the toxins of disease germs; the use of acronarcotic drugs; congress with harlots, as a general rule, or with women who admit several men; so that atrophy of the prostate, if a man keeps a mistress, if he perverts the sexual act or masturbation, atrophy or blight follows.

In all cases of partial or complete atrophy, there is always a diminished or non-secretion, a complete arrest being the most common. There may be no loss of erectile power, but a condition of priapism or satyriasis is often present.

If either of those two conditions exist, as large doses as can

be tolerated of the green root tincture of gelsemium and ozonized extract passiflora incarnata, to control this very troublesome condition.

Otherwise, in the efforts at a radical cure, there must be, for several months at least, a complete suspension of all attempts at congress.

The rectum should be flushed twice daily, and after its passage, suppositories of pink marrow and saw palmetto should be administered alternately.

Internally, a general tonic course, which should include such remedies as damiana and coca et celerina. These are capital tonics to the nervous centres which preside over the prostate.

In addition we have found the animal extracts of great efficacy, especially the thyroids, c. p. solution of spermin and kephalin.

An examination of the urine of many thousand cases of masturbators and those addicted to congress with courtesans. All have their spermatozoa mutilated, broken, dwarfed, infertile, and in their urethra the micro-organism, the gonococcus, can be detected. It is a singular but remarkable fact that the urine of all insane males contains precisely the same enfeebled, infertile semen as that passed from those who practice illicit intercourse. All men who have either committed masturbation, or been frequenters of a brothel, or have worn a condum, or practiced a perversion of the sexual act, suffer from prostatic trouble, either in an irritated, swollen state of the prostate gland, during which it becomes enlarged and loses its power over the seminal ducts; or the seminal vesicles become weakened and permits a weeping or oozing of semen at all times, but especially during micturition and defecation.

Just at this point, if the practice be discontinued, the judicious use of the saw-palmetto, and black-willow extracts orally, and suppositories of the same, will contract the relaxed ducts, leakages cease.

But if the victim pursue his onward career, it not infrequently happens that the muscles of the erectores penis are weak, debilitated; the testes loose, flabby and penulous; the erectile power impaired and the sexual appetite lost; then, in addition to the two remedies enumerated, avena, muira puama and kephalin are indispensable.

Much is both written and spoken of neurasthenia as being due to our climate, our highly oxygenized atmosphere, etc.; but let the mystery be probed, and it will be found that much of this

impoverishment of nerve force, this quick liability to exhaustion, is due to sexual perversion. To the same cause can be traced the lack of inhibitory or controlling power, feebleness and instability of action, and the fatigue and pain which temporarily follow mental and physical employment.

No matter what shape or turn the life current of one of these victims take, or what malady may attack them, in their urine are invariably to be found dwarfed, mutilated spermatozoa.

One of the most common of all maladies which attack this class of patients is "lithemia," a uric acid diathesis, dependent upon exhausted nerve force, chiefly affecting the liver, which gives rise to indigestion, constipation, coated tongue, headache, with innumerable nervous symptoms, pain in the limbs, itching and burning of the skin, neuralgic cramps in legs and abdomen; vertigo, dimness of vision, tinnitus aurium, depression and irritability.

The vesiculæ seminales are two memberanous receptacles, situated one on each side, beneath the base of the bladder, between it and the rectum. Their length is usually about two inches, and their greatest breadth from four to six lines; but they vary both in size and shape in different individuals. Their posterior extremities are separated widely from each other; but anteriorly they converge, so as to approcach the two vas deferentia, which run forward to the prostate between them; with the vas deferentia thus interposed they occupy the two diverging sides of the triangular portion of the base of the bladder, which lies upon the rectum. The seminal vesicles themselves rest upon the rectum, but are separated from it by a layer of the recto-vesical fascia, which attaches them to the base of the bladder. Their posterior ends lie beneath the opening of the ureters.

The common seminal, or ejaculatory ducts, two in number, are formed on each side by the junction of the narrowed extremities of the corresponding vas deferens and vesicula seminalis, close to the base of the prostate. From this point they pass side by side, through the prostate, between its middle and lateral lobes. After a course of nearly an inch, they end in the floor of the prostatic portion of the urethra by the valve-like slits placed in the verumontanum, one on each prominent margin of the opening of the prostatic sinus.

How many men have damaged and produced chaos in these vesicles, it would be difficult to enumerate, but we might roughly estimate that every one, who has either had a gonor-

rhea or committed a perversion of the sexual act; or had coitus with a courtesan; or been ruthlessly examined for a stricture; a horseback or bicycle rider; or has committed masturbation; been a reader of our demoralizing literature; these, and numerous other states, irritate, devitalize those vesicles; this irritation is reflected to the bladder, rectum, perineum, ejaculatory ducts, prostate, testes, giving rise in all cases to either uneasiness in bladder and rectum, or to painful micturition, or retention, or painful defecation, with persistent moisture.

These are precisely the train of symptoms which the ozonized extract of black willow can and does effectually control. In all cases, its internal administration promotes a renewal of life in the seminal vesicles—astringing, toning, vitalizing, anesthetizing—the drug is one essentially curative and should be used in all cases of enlarged prostate with sterility.

In can be used in three forms: in the form of the extract, as a bougie in the urethra, and a suppository per rectum.

If irritation of these vesicles be not subdued, it will destroy the spermatozoa and by and by cause persistent azospermia.

The last fifty years have brought to the attention of all observing physicians a peculiar condition of the sexual organs confined chiefly to men over thirty, from that up to forty and fifty. This consists in a peculiar form of partial or total impotency, with loss of sensibility in the organs—a sort of blight of the generative system, with apparently no other effect unless, possibly, dyspepsia, prostration in hot weather, or aching in the limbs in taking exercise. Well physically, but sexually dead. This national early decay arranges itself under two classes: (*a*) overexcitable and (*b*) the paralytic.

In all forms of sexual decay there is a brain lesion—a central diseased spot—from which all the symptoms radiate, which will never disappear till this diseased spot is cured.

Self-abuse, that vile and pernicious practice, so common, daily increasing, is sapping our vitals as a nation—is the principal feeder of our insane asylums, the cause of suicidal mania, idiocy, and nine-tenths of all diseases.

This is the vampire which gives rise to nocturnal losses; silent, constant, unseen losses, which do their work in producing vital deterioration. Day by day, men and boys walk our streets, weak, miserable, emaciated—the secret drain of the nervo-vital giving rise to partial death.

That spermatorrhea, the flowing away of the spermatic fluid in the urine after stool, is a frequent symptom of sexual neuras-

thenia and states of debility; that nocturnal losses weaken the spinal cord and brain; partial or complete paralysis of the seminal vesicles, functional nervous disease, mental depression, morbid fear in all its types and phases, hyperidrosis, nervous dyspepsia, heart failure, impoverishment of nerve force, and give rise to urethral stricture, granulations, inflammation and the performance of the sexual act, associated in all cases with sterility. The spermatozoa becomes infertile.

Abnormal mental states give rise to sexual perversion in the married state, which is most disastrous to the genital system.

The great prevalence of the venereal disease may also be enumerated as a cause of national decay. This bacillus may give rise to urethral stricture, granulations, inflammation and congestion of the mouths of the seminal ducts, giving rise to enlargement.

There is no gland in the body so susceptible of inflammation as the prostate gland.

Excessive walking, riding, masturbation, sexual excess, gonorrhea, give rise to congestion, inflammation. The seminal vesicles lie behind the bladder; the seminal ducts pass through the body of the prostate, and open into the urethra, so that a very slight irritation of this gland produces seminal weakness, loss, impotency.

One of the surest signs of incipient enlargement in young and middle-aged men is having to get up during the night to urinate.

Inflammation of the prostate gland invariably gives rise to enlargement, which is peculiar, for as the gland enlarges it becomes stiff, hardened, brawny—its enlarged condition presses on and deprives the sexual nerves of their power, paralyzing them—giving rise to total impotency.

The usual remedies are useless, nay, even hurtful.

The prostate gland must be revitalized, softened, cooled, robbed of its inflammation before such remedies as muira puama and ambrosia orientalis are of the slightest service.

Here it is where germicidal remedies do excellent service directly applied to the part. Medicated bougies and suppositories, easily and painlessly inserted into the urethra and rectum, melt, and as they melt are absorbed, right over the irritated or inflamed gland and seminal ducts. This is the most successful treatment ever brought to bear on enlarged prostate; it daily meets with success, and is effecting radical cures in hopeless cases.

Local and direct medication of the diseased parts is of immense value in all prostatic ailments.

Now, such derangements are exceedingly common, from puberty to old age.

Every man that has masturbated has a damaged prostate; every man who has been guilty of sexual perversion and excess has an irritable prostate; every man that has had a gonorrhea, that has worn a condum or rode a bicycle, has a sensitive prostate; every man who has had congress with a courtesan has a devitalized prostate.

The reflex effect of an irritable enlarged prostate upon the brain is most disastrous; there is a mental chaos, preoccupation, degeneration, or wiping out of the typical fissures; the loss of an important internal secretion, delusional insanity.

Internal medication is of some value, a general course of alteratives and tonics—to soothe the prostate, green root tincture of gelsemium and ozonized passiflora have an excellent effect —a full dose at bedtime.

In the ozonized extract of the saw-palmetto berries, all the oil or eleoresin is retained; by this mode of preparation the true medicinal properties are extracted, and we have a perfect product—a true vitalizer to the prostate and reproductive glands. All other preparations are worthless.

Another agent that merits attention is the periodate aurum, which possesses special power in stimulating the glandular system, exciting absorption. The gold combined with iodine is an elegant and easily assimilated form, having a direct specific alterative action on the prostate.

Others might be mentioned.

In the selection of bougies and suppositories for enlarged prostate the salix nigra, saw palmetto and idol are the best. One every night, or less frequent.

With regard to suppositories the cocain answers well. A still more soothing one is to be found in the boroglycerid suppository. The ichthyol is the best for exciting absorption, softening down the gland. A true estimate of the value of this suppository can be formed by the fact that each suppository has a medicinal power equal to ten grains of iodide of potass. The oil of the saw-palmetto berry made into a suppository, inserted into the rectum, melts and runs all over the prostate gland; if that gland is irritable it soothes, sedates it, allays inflammatory action, tones and strengthens; at the same time it revitalizes the sexual nerves, invigorates the erectile fibres, contracts the ejaculatory ducts.

A perfect cure—that is, a perfect restoration to health in all diseases of the reproductive organs—is possible with modern remedies.

Spermatorrhea is always complicated with a damaged prostate. The sexual nerves are weakened; the enlarged, indurated prostate keeps the mouths of the seminal ducts open, and the vital fluid oozes away into the urethra, to be swept away in urination. This loss tells upon the brain, the entire nervous system; there is no internal secretion, so much is wasted, and what there is is thin, watery, destitute of spermatozoa.

PRUNIA (*Ozonized*).—Indicated for the cure of tuberculosis, pneumonia, bronchitis, Bright's disease, diarrhea, night-sweats, hemorrhages, profuse expectoration, sore throat, leucorrhea, vaginal disease and dyspepsia.

The value of this preparation consists in its containing a larger percentage of free hydrocyanic acid, which thus gives a full percentage of tonic properties, and it is highly germicidal.

Dose, from a half to 1 teaspoonful, every two or three hours.

PRUNUS VIRGINIANUS.—The bark of the wild cherry. Is a tonic, stimulant, and sedative.

Physiological Action.—As it contains hydrocyanic in a natural state, it is sedative to the pneumogastric and vagus; hence subdues irritation of the lungs, gives tone to the pulmonary tissue, excellent in pulmonary tuberculosis.

Preparations and Doses.—Fluid extract or, better still, prunia, specially prepared, are most excellent preparations. Teaspoonful doses.

PRURITUS.—This may occur in various parts of the body, and belongs to a class of nervous affections, the outcome of a poverty of nerve.

It may be due to a variety of causes and exist at one or all the orifices of the body; most common in and around the anus, and invariably there is present the evolution of a microbe whether the originative cause be traced to piles, fissure, seatworms, eczema, nerve disturbance, kidney disease, jaundice, constipation, inebriety, opium habit, torpid liver, dyspepsia, alcohol, tea-drinking, vesical calculus, smoking, urethral stricture, uterine disease, diabetes, ovarian trouble or mental disorder. The itching is worse at night, and is often of fearful intensity.

Intolerable itching, burning, smarting, with desire to scratch, aggravated by heat; often associated with pregnancy and change of life, apt to terminate in cancer; nothing is visible to the eye, being a local neurosis; in other cases prurigo and eczema are present.

Several times daily wash the parts with a hot solution of ozonized boroglycerid and morning and night inject the rectum with four ounces of warm water to which five grains periodate aurum are added. This latter remedy, either in enema or ointment, is one of the very best applications in pruritus. Better by far than either chloral, bichloride of mercury or formalin.

Pruritus of the vulva; wash out the vagina with a solution of borax, one tablespoonful to the quart of tepid water, adding to it the same quantity of peroxide of hydrogen. Use promptly with a fountain syringe; then assume the recumbent position and insert one aristol pastil. Uusually curative.

Treat as general neurasthenia, by coca and kephalin; afford relief by doses of chloral hydrate; try first a strong lotion of boroglycerid, then hamamelis; these failing, use rose-water, half pint; borax, half ounce; alcohol, two ounces; camphor, one dram. Mix. Thymol jelly most effective, sulphate soda, general alterative course, saxifraga.

PSOAS ABSCESS.—An abscess which is a result of carious disease of the bodies of one or more of the lower vertebral bones. The abscess forms, and, owing to gravitation and pressure, finds its way into the psoas muscle lying in front of the spine. The muscle becomes absorbed, and the abscess burrows its way downwards, generally pointing at the surface in the groin, but it may find its way into the leg, and burst through the skin behind the knee, or even in the foot.

Treatment.—Rest in a recumbent position. Opening of the abscess. Inject it daily with peroxide of hydrogen 16 vol. solution; give internally echinacea and c. p. sol. spermin.

PTERYGION.—As a final result or repeated irritations, or inflammation of the conjunctiva, the blood-vessels of the inner or outer corner, or canthus of the eye become relaxed, congester, and become varicose, forming a triangular, fleshy excrescence on the conjunctiva. Vessels can be hooked up and snipped off, but a better plan is to touch or brush over the dilated vessels with aromatic sulphuric acid, once, twice, or more

times a week; and if that fails, a solution of nitrate of silver, forty grains to ounce.

PTOMAINS.—We have read much concerning the mysterious poisons knows as ptomains; yet we know very little concerning them or how they put in their destructive work. The impression generally prevails that the so-called ptomains are generated by some mysterious chemical influence on the food itself, and subsequently transferred, when eaten, to the living body. But this opinion has undergone considerable change of late years, the more advanced schools now teaching that death by ptomain poisoning is caused by the production of alkaloid in the stomach and intestines. The first important investigation into this kind of poisoning were made in 1885.

Ptomains are supposed to be the result of the decomposition of albuminous substances, deprived of air, and producing living germs, which consume the human tissues, but they are not necessarily deadly in their poisonous influences, though they frequently are. Ptomain poisoning seems to have grown in frequency with the progress made in the business of canned meats as food supplies; a further study of the question seems to be called for in the interest of health and hygiene.

Recent investigations show that ptomains are the productions of animal putrefactions, alkaloid in their nature, resembling the vegetable alkaloid, strychnine. They are present in tainted meat, fish, cheese, ice-cream once frozen and refrozen, and in every can of animal food. Much variety exists in their toxical properties.

They are formed in the living body in all deviations from health, in indigestion, when the tissues break down, in excessive labor, and produce auto-intoxication. Usually they are eliminated by the depurating organs. In the evolution, growth and sporulation of the germs of all contagious diseases, they are the products of bacterial life, and if elimination by the lungs, skin, kidneys, bowels do not keep them from accumulating the individual may die. Much of the sick headache we hear of is due to ptomain formed from albuminous elements of food.

It is these alkaloid poisons which create so much auto-intoxication. A few grains of chlorate of carbon added to tepid water as a mouth-wash, then five grains in a glass of water, kills many bacteria, freshens and cleanses the blood, antagonizes many ptomains.

The toxical principle evolved by nearly all the pathogenic

microbes has the strongest possible affinity for the nervous system, and once imbedded in that tissue, completely paralyzes it. We see this illustrated in the toxins of diphtheria, typhoid and others; and indeed it is no unusual thing when the gonococcus is in the urethra (gonorrhea) to have the superficial nerves of the urethra, and prostate, the extensive nervous plexi that reflexly excite erections, completely under the influence of the ptomain. This explains how men perfectly potent before the attack of gonorrhea all at once become temporarily impotent, especially of the micrococci have penetrated back to the prostate, bladder and testes.

PUERPERAL CONVULSIONS.—These are of different kinds, the original cause in them all being an irritation transmitted to the nervous centres. For treatment, it is a good plan to divide them into two classes—those in which there is anemia of the brain, and those in which congestion predominates.

In both forms, turn and deliver with all speed, if the mouth of the womb is dilatable.

If due to anemia, hypodermic injections of porphia; lobelia enemata, and very nourishing drinks; or use inhalations of chloroform or chloral hydrate, with the hypodermic injections.

If due to congestion, enemata of lobelia, active purgation, hyscymus, bromide of potassa; heat to feet, stimulants to nape of neck, cups; all failing, administer either by mouth or rectum the antispasmodic mixture, which is a safe and always efficacious remedy. A division of the class thus enables you to meet them with great promptness.

PUERPERAL ECLAMPSIA.—Convulsions, with loss of consciousness, unconnected with any grave cerebral or spinal lesion, occurring in parturient women. The frequency of its occurrence is one in every two hundred and sixty labors; it may vary some among different women in peculiar grades and position in life. They may come on the day after impregnation, and at any intervening period during pregnancy; still they are most commonly met with just before labor commences, or during and after it, and the largest proportion, 93 per cent, synchronous with parturition.

Although there is no aura or warning there is likely to be languor, lassitude, debility, headaches, disturbance of vision, flashes of light before the eyes, amblyopia, amaurosis, ringing

in the ears, difficulty of breathing; tingling, numbness in the limbs; epigastric pain; steady diminution of urea eliminated, invariably associated with albuminuria, which is always present before, during and subsequent to the attack.

Fifty per cent of all the fetuses that die before delivery are usually poisoned by the same causes which produced the eclampsia in the mother, or are asphyxiated on account of deficient oxygenation of the blood, or a too early separation of the placenta.

Complete recovery may take place, or death may occur in spite of the best treatment and most approved remedies. Supersaturated poisoned blood leads to heart failure, gradual asphyxia, lung congestion, puerperal sepsis due to infection.

Puerperal convulsions are nothing more nor less than toxemia, the retention of poisons in the blood, which are usually eliminated by the kidneys.

The source of the toxic principle is elaborated in the kidneys; the failure to eliminate is there. The toxicity in the blood is increased, supersaturated owing to renal incompetency; both the brain of the mother and fetus are poisoned by a physiological product. The pungency of this poison can barely be estimated by its action on the brain in the deep coma, constantly recurring convulsions, slowed labor combined with anemia.

If puerperal eclampsia be suspected an effort at prevention should be made. This can best be effected by flannel clothing, most nutritious diet, keeping the skin active by sponge baths at least once daily; stimulating the excretory function of the kidneys by apiol and the liberal administration of the comp. syrup partridge berry, and the insertion and retention of two obstetric cones, one per vaginam and one per rectum, morning, noon and night. These cones vitalize the kidneys, stimulate secretion, aid free elimination; besides they produce absolute anesthesia of the uterine and sacral plexuses of nerves, thus subduing all reflex irritation.

If convulsions have actually taken place, delivery should be effected as speedily as possible; then aid nature in the elimination of the poisonous product from the body through the usual avenues, skin, kidneys, bowels; either a hot or an alcoholic vapor bath is unexcelled; dry cupping over the loins, followed by hot linseed-meal poultices made with glycerin; enemata of pint infusion of flaxseed, to which 20 grains of chloral hydrate, 30 grains of bromide potassa, half a teaspoonful of apiol

solution are added; if there be much congestion, a few drops of veratrum viride should be added, and repeat, if indicated.

Never omit the obstetric cones, both by vagina and rectum, and repeat often, as they are a powerful aid in controlling the convulsions.

Once the patient can swallow, saline purgatives with peroxide of hydrogen are excellent.

The patient should be well guarded so as to prevent her doing violence either to herself or others.

PUERPERAL FEVER.—The etiology of puerperal fever, or puerperal peritonitis, is to be found in a pathogenic microbe, either the result of contagion or infection, or in the direct decomposition of animal matter, which yields a specific septic micro-organism, whose toxins and ptomains, absorbed into the system, produce the most virulent puerperal sepsis. It has therefore its starting within the uterus; systematic invasion of the uterine cavity seldom comes from the lower portion of the genital tract.

In difficult, retarded or prolonged parturition, the highly vitalized tissues of the pelvic viscera are damaged and abnormal microbic flora make their appearance everywhere.

It has been the practice of a large portion of the profession to treat puerperal peritonitis with large doses of opium and green root tincture of gelsemium, pushing both remedies to narcotism, under which the microbe dies; locally over the abdomen, ozonized turpentine has been found to be of great efficacy, with solutions of ozonized boroglycerid for a vaginal douche, with rather liberal internal doses of periodate aurum. A change for the better is coming over the profession. Much of this treatment has been discarded. The ozonized extract of passiflora is now used instead of narcotism with opium, with greater success. The ozonized turpentine is firmly held on to, but the practice of relying upon vaginal douching for disinfecting the vagina is faulty, not to say foolish. It has been clearly demonstrated that the injection of any antiseptic fluid into the vagina will not destroy germs in that location; it simply robs the patient to a certain extent of the safeguards that nature provides against infection.

The most effective agent to introduce into the vagina, as stated, is the ozonized boroglycerid pastils, one, two, or more according to the indications. They should be pushed well up. They dissolve rapidly.

Comp. matricaria ozonized is a most valuable tonic in puerperal peritonitis. Protonuclein must never be omitted.

It is admitted by the best authority that a damaged sympathetic, inertia of the uterus, lesions of the genital tract, permitting rapid absorption of puerperal products, are states or conditions that favor the evolution of this pathogenic microbe.

Once present, it is highly contagious and infectious, a germ of great vital tenacity and malignancy.

A thorough appreciation of the contagiosity of this fever should be strongly engrafted into our profession. No physician who is either in attendance upon a case, or visits the wards of a hospital or a dissecting room, should enter at least for six months the wards of a maternity home, and all medical colleges should at least be a mile from any hospital.

It is admitted by physicians of all schools that the best treatment for puerperal fever is to prevent it by early adoption of aseptic and antiseptic precautions; and even in spite of these and the most rigid prophylactic measures, an evolution of the germ will take place.

The very instant this microbe appears upon the puerperal horizon there is pain, elevation of temperature, rapidity of pulse; their intensity depending upon germ growth and amount of toxins present.

As a prophylactic to the evolution of the microbe of peurperal fever, there must be inculcated a high moral tone; adopt and use in every case of parturition the obstetric cones, because they cause complete dilation of the os uteri; they increase the vigor of uterine contractions; energize these contractions in the weak, the feeble; completely antagonize pain; their action causes the uterus to expel both placenta and secundines; their use prevents all complications, as hemorrhage, hour-glass contraction, after-pains.

I have found it of the greatest utility on the slightest indication of pain to administer periodate aurum, five to ten grains every four hours; it supersedes the use of all other germicides and is a remedy to be depended on.

Irrigation with hot soltions of ozonized boroglycerid, thrice daily, each irrigation followed by the insertion per vaginam and rectum of a cone, have a marked inhibitory action on microbic growth.

The importance of keeping up the patient's strength with concentrated nutritious food in a liquid form is most desirable.

Puerperal septicemia is due in nearly all cases to a poison which is generated in, and once there enters the blood from the genital tract. The producers of this poison are certain microscopical fungi, micrococci and bacteria.

These microbes are the evolution from many sources, chiefly, however, from the decomposing products of conception, putrefying substances, clots, pieces of placenta.

The predisposing causes of uterine inertia are depression of the great sympathetic, exhaustion, physical as well as mental; the exciting causes are numerous.

Puerperal peritonitis or sepsis, terms used to include all those diseases of the puerperium, having for their cause various pathogenic microbes. Much importance is attached to this subject, being a condition favorable for the growth and development of most malignant bacteria, an evolution from necrotic tissue, blood-clot, placental *débris,* mechanical violence, infection.

In the nineteenth century we have been treating most successfully puerperal or child-bed fever, or puerperal peritonitis, a most contagious and infectious malady, so much so that the contagium vivium, adhering to the hair of the nurse or physician, takes six months before it loses its infectivity, even if washed daily with antiseptics, and any case of confinement is liable to be attacked if within one hundred yards of a case.

Narcotism, a quasi-suspension for from twenty-four to forty-eight hours, during which the microbe dies.

Therapeutic value of the obstetric cones are much appreciated, as a remedy to arrest vomiting during pregnancy—to produce painless parturition, thereby protecting the patient from shock. Their use during labor completely overcomes a rigid os uteri, prevents hour-glass contraction, causes the uterus to completely empty its contents, prevents after-pains, and there has not been a case of puerperal where they were used.

They completely annihilate every disease germ in the vagina.

The vagina is the home of fourteen different varieties of micro-organisms, nine of which are saprophytes and six pathogenic. Puerperal sepsis, then, is from two causes, viz.: saprophytic or putrid, and septic proper. The former being produced by the decomposition of blood-clots, portions of retained placenta and membranes, etc. Saprophytes attack only dead or decaying tissue and decompose it (resulting in the formation of ptomains, which, by their absorption, produce the

constitutional symptoms we have to contend with, as fever, great depression, etc.). Hot antiseptic douches of a solution of boroglycerid, to wash out and kill germs and neutralize toxins, followed by a cone, keep the vagina in good condition.

PUERPERAL SEPSIS.—Simply surgical fever, from the infection of an abrasion or wound. An effort is made to divide it into different varieties, such as sapremia, or septic intoxication due to a local cause; septicemia, or acute septic infection; pyemia.

SAPREMIA.—In which there is a fever due to the absorption of the products of decomposition in the parturient canal, or due to the toxins produced by micro-organisms in the same, associated with inflammation, suppuration and fetor.

SEPTICEMIA, puerperal, known or recognized as acute septic infection, fortunately rare, but very fatal.

PYEMIA.—Due to the absorption of septic thrombus in one of the uterine sinuses, carried into the blood stream by means of the veins, and it is destructive to the red corpuscles.

The treatment embraces thorough disinfection of the external and internal genitals. Wash away decomposing portions of the decidua, placenta and clots. Never let the parturient canal become a culture medium for bacteria at the same time that general treatment for fever is being carried out; push chlorine alternated with echinacea to neutralize poison in blood.

PUERPERAL MANIA, OR MADNESS.—Is generally the result of a tedious labor, with the head imbedded in the cavity of the pelvis, pressing heavily upon the sacral nerves. The easing up of the head often relieves the difficulty. If not, delivery should be hastened, and then the case treated with anodynes, cups to the nape of neck, and enemata of lobelia and hyoscyamus. Bromide of potass and chloral hydrate should be freely administered, together with the obstetric cones. These latter push with energy both by the rectum and vagina. If she be altogether unmanageable, hypodermic injections of sulphate of morphia, with inhalation of chloroform at intervals of every two or three hours; bowels freely opened from above. The pressure of the head on the sacral plexus, even for a short time, the irritation is transmitted to the brain, a temporal form of mania is induced, which passes off; even that must be seen to. The condition is often much aggravated by worry, exhaustion, want, hemorrhage, or debility.

PUERPERAL PERITONITIS.—This rarely occurs without inflammation of the uterus first, then its peritoneal covering, and latterly the entire membrane, closing with gastritis and death. The predisposing cause in all those cases is depression of the sympathetic system. The exciting cause, some injury to the uterus, or absorption of the after-birth, or lochia (see Peritonitis for treatment).

PURPURA.—An effusion of blood either into the follicles of the skin or its general structure.

The cause is a poverty of nerve force, lack of cohesion of the nerve cells, owing to which the walls of blood-vessels and even the corpuscles themselves rupture, and effusion of blood takes place into the follicles, forming red dots (acute) and a general effusion, purple patches, like ecchymosis, constituting black leg chronic, anemic symptoms and hemorrhages.

Its treatment consists in rest in bed, pure air, sunlight, the most nutritious diet; mineral acids and cinchona, coca, avena, ozone water; kephalin; digitalis.

PYOKTANIN.—A so-called pus-destroyer, a term introduced by a German chemical concern to cover two agents (anilin, blue and yellow), which they vaunt as specifics for all forms of bacterial disease. In their efforts at introduction, they have subsidized the American medical press to boom their dyes, which are contra-indicated, among all English-speaking nations, as they are toxical to all healthy tissues, and potent heart-paralyzers.

PYORRHEA ALVEOLAR.—A spongy condition and recession of the gums accompanied with a deposit or incrustation of tartar around the teeth, common to adult life, associated with the uric acid diathesis, gout, rheumatism and catarrhal condition of nose, pharynx, ear, mastoid cells. A special micro-organism and the presence of squamous epithelia can be detected in the expectoration.

This condition will disappear on the exhibition of the ozonized tincture of echinacea used as a mouth-wash and internally. The same remedy answers well, if stomatitis, diarrhea and pyrexia be present. All irritation must be removed, such as decayed teeth, old stumps, any thing likely to set up septic conditions or muco-purulent pharyngitis.

RADIOGRAPHY.—A most important method of diag-

nosing many obscure maladies; especially is it of great utility in revealing the condition of fractures, their position, number of fragments, overlapping of ends, displacement in all and every direction. It gives or delineates to us at a distance on the fluorescent screen the condition of things within in a most accurate manner.

RAILWAY SHOCKS.—Mostly occur in the form of concussions and are best treated by diffusible stimulants guardedly to produce healthy reaction. Artificial heat to the whole surface of the body materially aids in bringing about recovery. The horizontal position, head a little lower than the trunk.

In shock, with restlessness and excitement, administer freely to soothe and steady the nervous system.

After the stage of shock is overcome we should give attention to diverting possible complications. We will remember at once how frequently psychic shock is attended by persistent sequelæ, not to speak of those more rare cases in which death itself follows after a time. Further, we recall the fact that permanent spinal symptoms, actual organic cord changes, may follow blows upon the trunk. What, then, shall be done —what measures shall we adopt to meet these possibilities?

Evidently the state of rest must be prolonged—prolonged far beyond the apparent needs of the patient's condition. All the time we should be on the alert for symptoms indicative of chronicity, and by all means in our power combat them. In other words, I believe that every case of railway shock, if at all severe, should at once be submitted to a rest-cure based upon absolute rest; isolation from friends, forced feeding, massage and electricity, should be the order of the day.

Even with these precautions, cases in which the sequelæ are delayed would escape us; but "better late than never" should be our motto, and the rest-cure should be adopted whenever the sequelæ are detected.

REJUVENESCENCE.—Whether it be premature or genuine, old age consists in a degeneration of the neuron, which is the basis of all forms of senile involution.

One of the problems of the twentieth century is, Have we any medicinal agents that will prevent or retard it?

The progressive physicians of the present age, who believe and practice, that the ozonized extract of the lamb's thyroid gland, a constructor; protonuclein, the active principle of life;

and the c. p. solution of spermin, the brain fortifier and builder, together with massage and nutritious food, will effect a change.

Extensive clinical experience has led me to believe that a judicious and careful administration of these agents will cause an improvement in the nutrition of the neuron, the nervous system, and an augmentation of physical and mental energy, and thus retard death. Under those remedies the nutrition of the brain improves, more especially the vasomotor centre in the bulb retards the progress of arteriosclerosis and the involution of the central neuron.

Under two doses of thyroid per week, protonuclein and spermin thrice daily, with one hour's massage after bathing morning and night, appropriate diet, hygienic surroundings, the vitality and energy of the body soon improve.

The individual prematurely or really old takes a fresh start in life, with a keener interest, resumes his work with vigor; his attitude is more erect, his step more elastic; with digestion and assimilation quickened; with healthy sleep. Indeed, his whole aspect changes—he is buoyant, looks younger, feels fresher.

If he is bald, the thyroid favors growth; if hair is gray, the three remedies will cause it to assume its natural color.

The results of this treatment are always good and the longer it is persevered with the more effective it becomes.

So there is hope for failure of brain power, due to early excesses and overwork.

At any time of life, when age is beginning to tell, this treatment rigidly carried out may enable the individual to retain his faculties and agility fairly well until eighty or ninety years, provided there does not exist some organic disease, such as paralysis agitans, insular sclerosis, cancer, contracted granular kidney, or fatty degeneration of the heart.

Kephalin is one of the most powerful remedies known to science for protecting the body from the inconveniences of old age. If administered, give it in distilled water thrice daily.

RELAPSING FEVER.—Numerous cases of this fever annually make their appearance. Its pathogenic microbe has been discovered, isolated, cultivated; its cultures have been injected into animals, producing the original disease in all its intensity and malignity, being highly contagious and infectious.

The microbe is an evolution from the decaying *débris* of

animal and vegetable matter, acted on by solar heat and insanitary conditions. Once the spore finds its way into devitalized bodies, the full-fledged pathogenic microbe is easily found in a drop of the patient's blood, and under a magnifying power of five hundred diameters can be seen in the form of long, wavy, flexible threads, with from ten to twenty convolutions. They are seen motile, moving quickly, with undulating movements, which pass in a wavy manner through its entire length.

This germ is found exclusively in the blood of the patient, never in the secreta. They are only productive during the rigor, and sporulation is complete during the first two days of the fever, never in the period of decline.

The numbers present in any special case vary, according to the amount inhaled and power of vital resistance on the part of the patient.

The germ is constantly and exclusively present in the blood, giving rise to a relapsing, or recurrent, or malignant type of fever. The remission and relapses taking place every five or seven days, each time an aggravation of symptoms, vital force becoming weaker and weaker, till about the sixth or seventh week, when he succumbs to the toxical excreta from the germ.

The ptomain excreted is a most deadly tetanic posion, giving rise to terrible prostration, intense headache, profound debility, excruciating pains in the muscles, bones, back, loins, with frequently a temperature of 107 degrees F., and a pulse of 160 during the febrile stage.

Prior to the discovery of the germ relapsing fever was one of the most fatal of maladies; since its microbic origin has been thoroughly understood its duration has been greatly shortened, its mortality minimized, few cases now proving fatal. Nay, if the case be recognized, efficiently treated with germicides, the germ can be either sterilized or annihilated, and thus promptly wiped out.

Echinacea ozonized, alternated with con. tinc. kurchicin, are most effective as prophylactics and also as curative agents, one ounce of the echinacea to three ounces of water. Dose, one teaspoonful every three hours, rapidly effect destruction of the microbe.

REMITTENT FEVER.—This fever bears a strong resemblance to intermittent in its cause, but is more serious in its effects. It occurs in the form of a continued fever, characterized by remissions. There is no cessation of the fever, simply

an abatement or diminution. The period of remission varies from twelve to twenty-four hours, at the end of which time the feverish excitement increases, the exacerbation being often preceded by a chill.

The cause is the malarial spore or germ acting upon vital forces already exhausted.

Remittent fever varies much in severity, according to the vital forces or peculiarities of the individual affected; the locality has less to do with the peculiarity or type than the individual, for the germ or contagion is the same, hence the idea of describing it under the names of localities is absurd. But if we have a germ from a river-bed (paludal), as well as a malarial, present, it is very apt to take on a strong bilious or even a malignant type.

Symptoms.—Usually commences with languor, lassitude, debility, mental depression, headache, shivering followed by high fever, vomiting, sometimes jaundice, often accompanied with delirium; pulse frequent and full; tongue dry and furred; nausea, vomiting, generally of bilious matter; sense of pain at the epigastrium, and tenderness on pressure, with signs of pulmonary congestion, great difficulty of breathing, a feeling of oppression at the chest, cough, and a livid color of the countenance. The urine is usually scanty, high-colored, and loaded with lithates, but passed in increased quantities during the remission. Length of remission varies from six to twelve hours and from twelve to twenty-four hours; at the end of which time the feverish excitement increases and the exacerbation is usually preceded by chilliness and a rigor. Remission usually occurs in the morning; the principal exacerbation is generally towards the evening. The disease may run on for some fourteen or fifteen days and end in an attack of sweating, or merge into typhoid or cerebrospinal meningitis. The period of convalescence is usually short, except some organic mischief has occurred, in which case considerable time may elapse before a restoration to health is effected, the debility being kept up by night-sweats, sleeplessness, dyspepsia, neuralgia, jaundice, and dropsy.

Complications.—The extreme severity of some cases, the depressed condition of the nervous and vascular systems, with defective secretions; the great exhaustion at the termination of a paroxysm, collapse, convulsions, or delirium, passing into drowsiness and coma, cerebrospinal irritation, with gastric irritability, or with bronchitis, pneumonia, or with hepatitis,

jaundice, diarrhea, or typhoid symptoms. The chief causes of the complications are great depression of vital power, with epidemic influence and improper treatment.

As a rule the fever terminates in recovery in two weeks or some of its numerous complications.

It often assumes a bilious form, termed bilious remittent, in which the liver receives a shock either from solar heat, malaria, syphilis, mecury, excess of carbonacous food, alcohol, or the poisoned products of meat.

In all the various forms of remittent fever, whether simple or bilious, it is a good plan to administer an emetic, open the bowels, and give a warm bath, put the patient to bed, then place him upon sufficient doses of concentrated tincture of kurchicin to keep a slight moisture on the skin; at the same time select some good intestinal antiseptic and administer either siegesbeckie tablet or tincture, or echinacea, or peroxide of hydrogen, or periodate aurum; liquid, nutritious food; as the symptoms disappear, some tonic like matricaria. The treatment by gelsemin and quinine is usually not well borne.

REPRODUCTIVE ORGANS.—The testis is an organ which does not attain its full size and function until puberty, which varies in different individuals, races, and countries.

When puberty is reached the testes attain full size and full function, and the features which are characteristic of the male sex are developed.

In the boy, the testes are small, firm, very compact in structure, the seminal tubules being almost indistinguishable, being so closely packed and bound together. There is a want of development, a smallness of cells. The tubules are destitute of important structures. All is quiescent.

The epididymis is relatively larger in proportion to the body of the testis, but its structure also is in an embryonic condition.

In the adult the body of the testis is large, soft, plump, measures on an average one and a quarter to one and a half inches in length and one inch in breadth, usually weighing from six to eight drams, the left being weakest, largest, most dependent. On a section of the testes the tubules resemble twisted threads, bulging outwards under pressure of the investing tunica or covering. They are easily separated from each other, owing to the intervening connective tissue, being small in amount and delicate in structure.

There is an asymmetry between the two organs, although

identical in form, in structure; in each, if normal, the function of elaborating spermatozoa goes on.

The seminal tubules in the adult are large, much convoluted; are composed of a thin covering, lined by seminal cells, within which is a continuous layer of small cubical cells, which are the parents of the others.

The modus operandi by which the seminal secretion is conveyed from the seminal tubules is by muscular contraction, which drives it onward.

In the aged the testes cease to produce their special secretion, the spermatozoa, and the individual loses his reproductive powers. This condition varies greatly in different individuals. In some men between seventy qand eighty the seminal bodies are found active; spermatozoa in all stages fertile. Cases have come under my observation of men at ninety suffering from spermatoceles, active, vigorous spermatic cells.

On the other hand, men addicted to masturbation, congress with harlots, varicocele, the toxins of syphilis, of typhoid and other fevers, cease to elaborate spermatozoa as early as thirty, forty, fifty; undergo structural change, fatty degeneration, involution or decay.

Spermatozoa-producing cells completely disappear in those cases. Small or shrunken testes of old men are completely transformed into a mass of fibrous cords.

The effect of celibacy upon the spermatozoa-producing power of the testes is to render them smaller and take on atrophy. The structure of the seminal tubules suffer much, being withered and blighted; the testes not only being reduced in size, soft, flabby, wasted. The effect of enforced celibacy, even for a few years, is a blight, and their full size and function is never restored unless the treatment is carried out with consummate tact and skill. In such cases the sexual sense or appetite by being kept in abeyance is disastrously affected.

The influence which normal testes exert is of paramount importance, first, upon the growth and development of the accessory sexual glands, the prostate, vesiculæ seminales and Cowper's glands, and, second, on the growth and development of both body and mind.

The testes of the male, the ovaries of the woman are the motive power of the universe. Removal of the testes is followed by atrophy of the prostate, smallness of the penis, and obliteration of all the reproductive glands. The testes, the dominating sexual glands of the male, the ovaries of the female, in

health and in disease exert a marked, decided influence for either good or evil upon every cell, gland or organ of the entire body; they either influence or retard growth; either vitalize or blight—govern all developmental changes which form the characteristic features of sex. Deprive a man of his testes, he is sexless and acquires all the typical characteristics of a woman; deprive a woman of her ovaries, she assumes the masculine elements of the male.

Intermarriage of individuals of either closely-allied temperaments, or related by consanguinity, gives us an offspring who are victims of congenital defects, among whom we find many cases of retained or undescended testes.

Such cases incapable of producing their special secretion of spermatozoa are yet capable of exerting their peculiar and important influence upon the growth and development of both mind and body.

In some cases we find one retained in the abdomen, the other down in the scrotum. The fully descended one will produce spermatozoa, usually acquires a larger size than natural. The individual so situated is in full possession of virility. But if both fail in their descent into the scrotum, they are incapable of producing spermatozoa, in consequence of which the person is sterile. In spite of this he acquires all the bodily and mental characteristics of the male: broad shoulders, full beard, large penis, vigorous intellect, all except the power of procreating.

The influence of the testes upon the growth and maintenance of the characteristics of the male is a property independent of their power of producing spermatozoa, and the remarkable fact is established that the spermatozoa-producing work of the testes, their potentiality for that purpose, is not necessary for the establishment of the influence which these organs exert upon the rest of the body.

The natural involution of the testes in the aged is unaccompanied by any corresponding change in the system: but if the testes in an elderly man are removed, the prostate and all the accessory glands atrophy; and the entire mind and body become essentially feminine.

The functions of the testes are therefore twofold: to control and determine the development, the characteristics of the male sex; to produce spermatozoa for the reproduction of the species.

These two functions are usually exercised together, but the former may be brought into play without the latter. The

effect of the evolution of spermatozoa by the seminal cells, and its reabsorption into the system, influence the nerve centres, control growth and nutrition.

This is remarkably well illustrated by the local and internal administration of c. p. spermin isolated from the testes of any mammalia, most usually from the calf, at or about the sixth month, at which period it is elaborated freely, independent of its spermatic secretion, which controls growth and development of both body and mind and, if its use is persevered with, maintains the manly characteristics acquired at puberty throughout his entire life, makes one feel younger and capable of doing more work—a valuable remedy in all nervous diseases.

As a general rule, between the ages of fifty-five and sixty-five, sooner, often later, degenerative changes take place in the testes, their proper structure becomes obliterated and usurped by fibrous tissue. The same condition takes place in the ovaries of women, but ten or twenty years earlier. The menopause is peculiar to both sexes, and in addition to changes in the reproductive organs, there are retrograde changes in the arteries, cortex of the brain, even atrophy of that organ, which induces mental disturbance.

This, with our animal extracts, can be prevented, at least to a great extent. The administration of a few doses of thyroid extract weekly with c. p. spermin daily, wards off this condition of senility, prolongs cerebral and sexual activity for an indefinite period.

Castration.—The removal of the testes in the male, and the ovaries in the female, constitute what is known as castration. In considering this subject, the question which attracts attention is: Is castration in either sex a warrantable operation, for the cure of any disease, especially masturbation, epilepsy, insanity, hypertrophied prostate? And as far as woman is concerned it is but a mere subterfuge to evade the responsibilities of childbirth or the suffering incidental to the climacteric.

The removal of the testes in the male, either before or after puberty, or later in life, completely unsexes him, changes his organism, extinguishes all sexual feeling, deprives him of his virile sense and the indescribable benefit of the secretion and reabsorption of seminal fluid, which in itself is the great aphrodisiac.

In consequence of this he loses all the elements of manhood: his hair becomes thin and scanty, muscles soft, voice inaud-

ible, brain soft, creamy; his entire body effeminate, the sexual organs atrophy, the prostate completely disappears, incapable of effort, a cipher in existence.

The removal of the ovaries in women is a deplorable event; first, the nerve shock, the abrupt arrest of an important evolution, the loss of the ovaries as a mental equalizer. Sexuality is a potent factor in women as well as in man—evolution, menstruation, gestation, parturition and lactation are hers.

Ovarian irritation almost invariably disturbs the mental poise, gives rise to instability, often aberration.

The removal of the ovaries unsexes, wipes out the sexual sense or instinct.

The seat of sexual desire is instinctive in the brain; it neither resides in the glans penis in the male, nor in the clitoris, the nymphæ or ovaries in the female. The instinct may be so strong that it might survive the removal of the testes or ovaries, but it is impotent after mutilation; after the removal of the sexual appendages there is no fruition.

The physical and psychic influence of the ovaries upon woman cannot be overrated, for on the ovaries depend all the specific properties of her body and mind—her nutrition, her exquisite nervous sensibility, the delicacy and symmetrical construction of her body, with all its characteristics of womanhood.

The removal or extirpation of the ovaries completely extinguishes all sexual desire, changes her entire organism, disturbs mental equilibrium, produces nervous perturbation; she loses all power of procreation and acquires a roughness of characteristics; her voice is squeaky, hair appears upon the lip; she is cold, callous, ungainly. The artificial unsexing of women is often attended with serious consequences, grave complications, mental disturbance, lowness of spirits, melancholia, verging on insanity; all her affections are completely changed; she becomes repulsive to the male.

By the removal of the ovaries a woman gains some things: she abruptly reaches her climacteric, and it may be possible that she may escape all the suffering for some years incidental to that change, those flushes of heat and coldness, headaches, skin perspiration, tingling, numbness, the various nerve-storms of vasomotor disturbance, but very rarely is this the case.

Castration has many advocates: it is recommended as a cure for enlarged prostate and uterine tumors, for all cases of insanity caused by masturbation. The splaying of young wo-

men for the purpose of evading the responsibilities of motherhood is a national crime of the greatest importance.

The Human Spermatozoa or Semen.—An eminent physiologist says that the semen is a thick, white, pasty secretion of the seminiferous tubes, consisting mainly of seminal cells, out of which spermatozoa or fertilizing elements are developed. The spermatozoa first make their appearance in the rete testes and constitute nine-tenths of the glutinous mass.

In the epididymis and vasa deferentia the zoosperms are perfectly motionless from the density of the medium in which they are contained; but when they reach the seminal vesicles they are in active, rhythmical, undulating motion.

The fluid contained in the seminal vesicles is odorless, viscous, colorless, heavier than water, of neutral reaction, and does not coagulate. When, however, it is incorporated with the secretion of the prostate and urethral glands, semen has an albuminous consistence, a whitish or opalescent tint and an alkaline reaction, and emits a peculiar odor. After ejaculation it is transformed into a gelatinous mass, but becomes more fluid after exposure to the air.

The testes furnish the fecundating elements of the semen, the secretion of the associated glands—particularly that of the prostate—renders it thin, imparts to it color, odor, alkalinity, coagulability. The prostatic fluid serves as a vehicle for the transmission of the spermatozoa to the uterus, for its preservation there, for the spermatic bodies would soon die in the uterine mucus were it not for the prostatic secretion, which keeps them alive for nearly forty-eight hours in a healthy vagina.

The Secretion of the Testes.—Another author says the male semen is a complex substance, consisting of various secretions—from the testes, from the seminal vesicles, from the accessory glands of the urethra—especially the prostate—Cowper's glands and mucous glands of the urethral mucous membrane. These different secretions, if all healthy or normal, when united form normal semen after ejaculation.

If one or other or several of these secretions be absent or diseased, sterility is present.

Normal semen contains spermatozoa, spermatic cells, epithelium from the prostate and urethra, and seminal granules.

Before puberty and in old age any urethral discharge, in coitus or otherwise, contains no spermatozoa; still there are some exceptions, for from well-preserved old men spermatozoa are to be found.

In healthy men, who have never abused their sexual organs by excesses, masturbation, congress with harlots, or gonorrhea, the spermatozoa are supposed to be normal. Then the spermatozoa in his semen are lively, frisky, and if carefully covered or protected, or sheltered from air, light and cold, may live forty-eight hours.

The quantity of semen ejaculated at one coition depends greatly upon the healthy condition of all the other glands, the size of the testes, the habits, occupation, food and general physical condition. Two drams seem to be about the average quantity, but the quantity is not of so much account, so the quality is good.

There may be a normal quantity of fluid discharged, but the spermatozoa may be absent (azoospermia); there may be none discharged at all (aspermia), hence it is useless to look for spermatozoa. They may be present in large quantities, and perfectly healthy, even when a small quantity of fluid is discharged. These conditions may be either congenital or acquired. The congenital is usually permanent, the acquired form usually temporary.

In the congenital variety there is an absence or imperfect development of the testes. One or both being absent in the scrotum indicates sterility.

The most common acquired form is due to damage to the testes, giving rise to orchitis. This may be caused by external violence, mumps, gonorrhea, syphilis or other toxins of disease germs, which give rise to an inflammatory process, and subsequently atrophy of the glandular elements of the testes.

Hernia, hydrocele, varicocele and all tumors disturb the nutrition of the testes by pressure, or by changing the blood-vessels and thus produce atrophy.

Cystic and prostatic disease, either the migration of the bacillus of tubercle, syphilis, cancer or a deposit of its toxins, both destroy the testes by impairing their glandular structure.

Any impairment of the general health by too much work, fret, by excessive study, fevers, inflammations, wasting disease, affects the testes.

The sterility or blight of the reproductive organs, invariably attendant upon sexual excesses, venery, masturbation, congress with harlots, withdrawal, is usually temporary, but may become permanent through the agency of organic changes taking place in the testes.

NUTRITION OF THE TESTES.—The reproductive organs of

both sexes are influenced, modified, their vitality increased or decreased by the conditions by which they are surrounded, as well as by diet and remedies.

Nations in temperate latitudes who use a large amount of phosphatic diet are remarkable for well-developed generative organs, large brains, great intellectual capacity.

Our present state of civilization, with its ceaseless activities and great mental tension, cannot be maintained upon our ordinary food, for it cannot keep up the nutrition of the brain of individuals whose labor is chiefly mental. Hence the nervous system of the great mass of our population is literally starved; and as the testes evolve and secrete from the nervo-vital fluid, their product is dwarfed.

A deficiency of phosphates in our food is the initial step to cerebral and testicular starvation, a condition in which all our intellectual faculties suffer. With a starved brain cerebral anemia follows, and the testes fail in giving out their vitalized internal secretion, sluggishly evolve spermatozoa which are puny in the extreme.

Feed the brain with its own chemical constituents, such as protonuclein, thyroid extract, kephalin, c. p. solution of spermin, avena, and more than half our present diseases would vanish or disappear.

Those medicaments are, with good food, our great vital constructors. Under a course of these remedies the brain becomes clear, active, vivacious; the testes and spermatozoa become normal or excessive, both in development and number. Give us by these vitalizing remedies a superabundant stimulation and growth, and with it a higher type of manhood.

SPERMATOGENESIS (A HIGHER TYPE OF MANHOOD).—Certain remedies, high and low states of vital force, have a remarkable action upon the secreting faculty of the testes, upon the production of certain grades of spermatozoa.

In the microscopical examination of numerous specimens of human spermatozoa we are struck with the different appearances under certain articles of diet; under the influence of certain remedies, such as kephalin and c. p. solution of spermin, and under all states of neurasthenia.

The initial form of spermatozoa secreted by the testes under the influence of an exhausted brain is dwarfed and misshapen. Where the vital forces are either normal, or even higher, teeming with life, with an immense amount of reserve force and recuperative power, they are well-formed, good size, lively and

tenacious of life. Where the vital forces are very high, the spermatozoa often exhibit excessive development. When kephalin and c. p. solution of spermin are administered this development is still greater, not only large, but many of them have two heads and two tails, and otherwise of a mammoth size. The products of all cells are liable to variations by their surroundings, by their nutritive elements, and by remedies.

Spermatozoa of excessive growth, finding an entrance and mingling with the contents of the female ovum, furnish or contribute to superabundant stimulation and growth; give an impetus to vigor of the future product; give a dynamical preponderance of either the male or female initial energy.

Healthy testes never blighted by masturbation, never marred by the syphilitic germ, whose secretion gives rise to the generative impulse, determine the future activity of the resembling fusion—a fusion that determines inherited conformity to the final unity.

If c. p. solution of spermin, kephalin or oats be administered to either the male or the female during the procreative period of life, they exercise a marvelous influence over fecundation and growth by promoting a rejuvenescence of every tissue in the body.

Spermatogenesis is a prophylactic against a cerebral wreckage.

Insanity in both sexes is very rare before puberty. Indeed, the greatest percentage of deviations from a normal state occur during the active period of procreative life.

Certain habits, such as masturbation, sexual excesses, incompatibilities, abnormal methods of coition, disjoint the cerebral mechanism, impoverish and drain off the nervo-vital fluid; chorea, epilepsy and insanity appear.

Two-thirds of all the inmates of our lunatic asylums are of this class.

Saturate the blood, all the tissues of the body, with the thyroid extract, c. p. solution of spermin, kephalin. In other words, supply to the body a substance, the deficiency of which has caused the morbid process, and the most brilliant results will be attained.

THE SEMINAL FLUID.—This fluid is a thick, white, tenacious somewhat opaque fluid, of a slightly alkaline reaction, has a peculiar odor due to the prostatic fluid in which it is usually incorporated.

It is composed chiefly of spermatozoa, which are found to be most abundant between the ages of twenty and fifty-five.

When passed from an individual in good health, they exhibit very lively movements, but their mobility is very rapidly destroyed by the addition of water, or exposure to the air.

They are present only in healthy semen, and are of great interest in the diagnosis of a certain morbid conditions, as sterility. A persistent absence of spermatozoa (azoospermia) will show the individual to be incapable of procreation, which may occur whilst other signs of sexual power are retained. Nearly 33 per cent of all males in large cities are sufferers from azoospermia, and it is of vital importance to distinguish this from the persistent absence of spermatozoa due to draining off by excessive and repeated intercourse. Under such circumstances the fluid ejaculated contains little else than prostatic secretion.

As life advances, spermatic crystals, various amyloid substances, stratified masses of various degenerative tissues, are found which are not characteristic of healthy semen.

The appearance of spermatic crystals in the seminal fluid is indicative of degenerative changes in the testes, and of senility.

This downward process of decay may be warded off by rest, good diet, by a judicious use of the ambrosia tablets, by thyroid extract or protonuclein, by the c. p. solution of spermin, kephalin and oats.

The seminal fluid as it leaves the penis is composed of secretions from the testes, the prostate, and Cowper's glands, with a small quantity of mucus derived from the urethra. When examined under the microscope, many different objects are seen, which seem as it were to hold the spermatozoa in suspension, for the moving, living spermatozoa are the only elements necessary for impregnation. A man does not necessarily possess virility because he has an ejaculation of semen, that he is a potent man only when he has testicles doing proper service, that it is necessary that his power of erection during coitus be such that the spermatic fluid be deposited in or near, in close proximity to the cervical canal, where the secretions in health are alkaline; lower than that in the vagina, where the secretions are acid, they are apt to die in a few hours. Healthy ovum must be reached by the healthy spermatozoa: this is effected or assisted by the cilia of the upper part of the cervical canal, with an inhibitive action derived from the uterine wave, which gives them an impetus upwards and onwards, which, if everything be normal, the spermatozoa, one or

more of them, find an entrance into the substance of the ovum, and thus impregnation takes place.

For impregnation, for reproduction, some things are essentially necessary; there must be a production of healthy ova and spermatozoa, there must be a union of the two, then the implantation of the impregnated ovum in a uterus fitted for its growth and development. All influences acting either directly or indirectly so as to prevent the fulfillment of these conditions produce sterility.

SENILITY.—At what particular time of life senile sterility in the male takes place is not definitely known, but as his development is less rapid than the female, so is his loss of virile power postponed till late in life. In temperate latitudes, reproductive power is never thoroughly established till from twenty-one to twenty-five, and if there has never been masturbation or excesses, or abnormal methods of sexual congress, it may be preserved till eighty years of age. Not so, however, if there has been self-abuse, excess, dalliance or withdrawal, or wearing condums. When natural laws are violated, sterility may appear as early as thirty. The history of the case, seminal discharge without spermatozoa, or if any, they are so weak and feeble, so dwarfed or distorted, as to be incapable of impregnating the ovum.

One of the most serious and sinister symptoms of general national decadence is the decline of paternal feeling, family duty and responsibility; children have no respect or deference for their parents. Married women try to escape from the cares and responsibilities of the mother. This betokens a serious growing derangement. The United States has resources altogether unequaled among nations. Capabilities and resources which exceed the power of calculation. The entire nation is permeated by a wonderful, intense, stirring life; in the midst of all a cloud hangs over our land, to wit, the infecundity of our native born. This sterility has its origin in the bias of modern civilization, in the early errors of indiscretion, masturbation and excess; in the presence of the bacillus of syphilis, which is causing a blight in everything on the procreative line; later in the withdrawal schemes of the married, followed by general sexual wreckage.

All cases are benefited by a general alterative and tonic course of treatment, with bathing, massage and the best of diet.

In cases where the testes are congenitally deficient, or absent, or atrophied, or not descended—if there be the slightest

possibility of their being present in the abdominal cavity; in either case, if aspermia or azoospermia exist, remedies are useless.

Independent of the ambrosia tablets, thyroid extract, c. p. solution of spermin, kephalin, the ozonized extract of the saw palmetto, made into a suppository and bougie, possesses positive merit in atrophy of the testes; in these two forms it is of special utility in cases of premature old age, too early a decline of the virile and physical powers.

In atrophy of the testes there is a decadence of all the reproductive glands, and those suppositories aid, often act as a vitalizing tonic to the state in which atrophy has crept in, help materially in promoting normal secretory activity. They are worthy of a trial.

Epididymitis.—A frequent complication of gonorrhea when treated with cubebs, copaiba, sandalwood oil and petroleum.

The urethra is untenable for the gonococcus, and it travels to the lower portion of the epididymis from the prostatic portion of the urethra, along the vas deferens, thence to the tunica vaginalis and scrotum, the testes being less severely implicated.

The symptoms are severe, aching, violent pain, with extreme tenderness of the epididymis, the scrotum being red, swollen, with the tunica vaginalis often filled with serum.

To relieve this promptly insert one ozonized, soluble iodol bougie as far up the urethra as possible, allow it to dissolve, and then follow with another and another, until a copious discharge has been established. Just as soon as this takes place, pain, tension, swelling are promptly relieved. At the same time drop sixty drops of the green root tincture of gelsemium, and the same quantity of pulsatilla in four ounces of water, administering one teaspoonful of this combination every five or ten minutes, until perfect relief is obtained. Then in a few days llaretta will complete the cure.

In orchitis proper large doses of the green root tincture of gelsemium with an equal quantity of passiflora incarnata operate speedier than any other remedy.

Painting the scrotum with collodion in which c. p. guaiacol is incorporated affords marked relief.

During the progress of inflammation, either due to mechanical violence or to the presence of disease germs, there is usually less or more lymph effused, which causes induration and enlargement, often obliteration of its interstitial or glandular structure.

An effort in all cases should be made to absorb this lymph, so as to restore the testicle to its normal condition. We have found the comp. syr. saxifraga invaluable for this purpose in alternation with phytolacca; locally to the scrotum, cerate of iodide potassa and belladonna, or else lotions of chloride of ammonia, nitrate of potassa and nitrate of ammonia, excites an inflammatory absorbent action upon the inflammatory deposits, stimulate the arrested secretion and aid in the restoration of healthy function.

All disorders of the testes are liable to be accompanied with either temporary or permanent absence of the spermatozoa. They are never found at all when the wasting is excessive.

Simple orchitis and total disorganization of the testes, from whatever cause they may arise, as well as fatty degeneration of the secreting cells—a condition met with in drunkards—are followed by absolute azoospermia. Still partial atrophy does not entail sterility. Tubercular, syphilitic, and cancerous infiltrations abolish their function for the time being, but secreting power returns after treatment with thyroid, matricaria and ambrosia orientalis.

NEURALGIA OF THE TESTES.—An exhausted, devitalized state of the testes, the presence of the toxins of disease germs in their interstitial structure; a neurosis, involving both testes and spermatic cord; a dragging and stinging pain in the testicle which occurs in paroxysms. It may be accompanied by a painful sensation in one or both groins, or a stinging pain in the urethra during and after ejaculation of semen. If the sound be introduced into the urethra there is extreme tenderness, much aggravated when it reaches the prostatic portion.

In extreme cases of atrophy some hope of a cure may be entertained. In such cases, either protonuclein or thyroid extract, followed by c. p. solution, tend to promote the growth of the testes. They should be persevered with for some months, and at the same time, occasionally kephalin or oats. The scrotum should be enveloped in the saw-palmetto ointment.

HEMATOSPERMIA.—Bloddy serum may arise from a large number of causes inherent in the individual,—constitutional taints, diathesis, the presence of disease germs, as those of tubercle, syphilis, rheumatism, gout, may give rise to mucopurulent discharges, with slight capillary hemorrhage.

Again, it may arise from inflammation due to a variety of causes, some of them extravenous to the organism, as trauma-

tism and contact with germ-laden secretions, pus, the gonococcus, purulent tubercular inflammation of the vulva, which is a common cause of prostatorrhea in all who happen to have coitus with such.

Urethral discharges with blood may follow the ingestion of asparagus, parsley and some drugs—often a sequel of the solitary vice of masturbation, sexual excesses, especially with harlots.

The seminal fluid may be discolored in various ways—pus changes its color from gray to white; an admixture of blood to a bright or dark red, or orange; in some cases a light or dark blue.

The true source of bloody semen is to be traced to the seminal vesicles, and is either preceded or followed by chronic inflammation, which is of indefinite duration.

Bloody semen, from whatever cause, is a precursor of impotency.

Such cases demand immediate care and sound treatment; no matter what the causes may be,—the bicycle, horseback exercise, sexual excesses, gonorrhea, etc.,—it must be removed, and then a thorough regulation of all the patient's habits. The best of all therapeutic agents is the great sexual sedative and astringent, the ozonized extract of black-willow bark, a highly vitalizing remedy to the reproductive organs of both sexes, administered orally; as a suppository per rectum; as a bougie for urethra.

The different preparations of the black willow are infallible in checking all leakages from the male sexual organs.

STRUCTURAL CHANGES IN THE TESTES IN THE AGED.—Our very best authority on this subject says that in the testicles of the aged two distinct stages may be recognized in the process of involution and decay to which they are liable. In the first the epithelium of the seminal tubules, and also that of the tubules of the globus major of the epididymis, undergoes more or less complete fatty degeneration, and partly disappears; the tunica propria of the tubules of the testicle becomes somewhat thickened, but the intervening intertubular connective tissue remains practically unaltered. In the epididymis the muscular wall of the tubule is replaced by fibrous connective tissue, and the intertubular connective tissue is increased, dense, and fibrous. In the second stage the seminal tubules are much reduced in size, the epithelium having in great measure disappeared, leaving only in many instances a single layer of long,

tapering, columnar cells lining and filling the tubule, the central spermatozoa-producing cells having completely disappeared, while the tunica propria is greatly thickened from proliferation of its own connective-tissue cells and the formation of a fibrous matrix. The intertubular connective tissue is in this second stage relatively increased, owing, perhaps, to the diminution in size of the seminal tubules, but it still remains of loose texture, and contains, as in the normal organ, many connective-tissue cells. The epididymis shows no other changes than those incident to the first stage. Besides those described there is a third change which is more partial, and resembles the result of the inflammatory process. It is usually observed in the small or shrunken testicles of old men, and affects both organs. In the altered patches the seminal tubules in the majority of instances are completely transformed into fibrous cells derived from the degenerated cells of the seminal tubes. fissure, which represents the original lumen. traces of epithelial cells derived from the degenerated cells of the seminal tubes. The intertubular connective tissue is increased in amount, and converted into a dense fibrous variety.

The ambrosia tablets, with large doses of ozonized passiflora, relieve this condition promptly.

Neuralgia, due to a tightness of the capsule of the testes, is best relieved by the administration of saw-palmetto suppositories and orally by passiflora.

Celibacy gives rise to atrophy, and neuralgia follows.

All acronarcotic drugs alter the composition and function, blight the secretory power of the testes. No spermatozoa are evolved. All diseases have the same action.

IRRITATION OF THE TESTES GIVES RISE TO INFLAMMATION OF THE SEMINAL VESICLES.—An exceedingly common form of inflammation, met with in either the acute, subacute or chronic form, predisposed to by the tubercular diathesis. The common causes are bicycle riding, gonorrhea, masturbation, sexual excesses.

At the present time, nearly all physicians have numerous cases under treatment.

In any of the three forms, there are marked disturbance of the sexual functions, either a diminution of sexual desire or it may have disappeared altogether. In a small minority the desire is increased. In some, erections are almost absent, while in others they are persistent. The act of ejaculation is very precipitate, or it may be tardy and accompanied by much pain,

and followed by pain in the perineal region. Seminal emissions are also frequent. The amount of fluid ejected is small and the spermatozoa are lifeless and reduced in numbers.

When inflammation of the seminal vesicles originates from a gonorrhea, there is likely to be pus, often in a considerable amount, and even traces of blood, which gives rise to a greenish coloration, owing to the oxidation of the hemoglobin. A considerable amount is characteristic of a severe case. Functional derangements of micturition are invariably present; besides, there is pain in evacuation of the bowels; pain at the neck of the bladder; pain in the epididymis and in the vesicle itself when the bladder is distended.

In order to make a correct diagnosis the seminal vesicles must be examined per rectum when the bladder is full, one finger being introduced through the anus, while with the other hand pressure is applied to the hypogastric region. By this means the lower half of the vesicle can be felt. If diseased, it will be distended and tender to the touch, especially in the acute cases. By pressing on the vesicle and drawing the finger along it some of its contents can be pushed into the urethra, and on urination they can be collected and examined.

In treating these cases, rest in the recumbent position, enemata of a solution of ozonized boroglycerid, as hot as can be borne, at least thrice daily; each enema, when passed, should be followed by the introduction of a boroglycerid suppository per rectum; at bedtime a cocain suppository should be used. Internally, large doses of the green root tincture of gelsemium should be administered, alternated with full doses of the black willow extract.

The testicles should be supported by a suspensory, and frequently bathed with the ozonized distillation of witch-hazel, If there be much discharge from the urethra, no injections should be used, but rigid cleanliness observed. If the case is carefully guarded, there will be no danger of perineal abscess.

Atrophy or Blight of Testes.—Any damage that will cause a blight or wasting of the testes will produce an analogous condition in the brain and seminal secretion.

Masturbation, sexual excesses, drain of the nervo-vital fluid, weaken the cerebrum and impair all the intellectual faculties, even to a wiping out of the typical fissures of thought.

Still more disastrous atrophy of the spinal cord and cerebellum, with disturbed sensory and motor power.

In some young men and women between fifteen and twenty-

five, victims of the practice, a careful examination of many hundred cases reveals the fact that in many cases the cerebral hemispheres are reduced nearly one-half their normal size, that atrophy of the organic cell has commenced.

An examination of the blood of those cases shows it to be chemically identical with the blood of the insane or epileptic.

A few years ago such cases were deemed incurable, but now we have received valuable additions to our armanment arium for the cure of cerebral atrophy, in the shape of the thyroid extract, spermin and cerebrin. In all cases the cause must be removed; that is, if the atrophy of the brain in young subjects be due to seminal losses, these must be entirely put a stop to. Tincture of the green root of gelsemium ozonized must be administered so freely, under proper precautions, that neither the scintillation of sexual desire nor an erection is visible. Ozonized black-willow bark, salix nigra suppository and bougie will perfectly close or shut off all seminal oozing.

There and then only is the time to place the patient upon thyroid, spermin and cerebrin; remedies which have completely revolutionized the treatment and cure of all nervous diseases.

Ozonized thyroid extract is the basis of all permanent cures by the organic extracts. It stimulates the evolution of the primary cell, the very origin of the basis of a new life, and is a specific remedy in myxedema, idiocy, feeble-mindedness, and all forms of congenital deficiency. The remedy is comparatively new, but offers great possibilities; exerts some wondrous influence direct or indirect upon the growth of the central nervous system; it secretes a nerve pabulum; a substance useful to the metabolism of the blood; very vitalizing to the reproductive organs.

Once the remedy becomes better appreciated, more thoroughly understood, we see in it a possible treatment for cancer, tuberculosis, psoriasis, leprosy, epilepsy, insanity; a reconstruction of old effete tissues; a new memory, improved sight and hearing, and great mental vigor. To effect all this, thyroid must be administered with great care, and by the mouth only. Individual constitutions differ so much in their power of resisting this drug that the maximum amount necessary to become efficient is fifteen drops. In some cases, this can be given every day; in others, once or twice a week.

Wasting of the testes, from whatever cause, gives rise to impotence and sterility. Orthodox teaching says it is poverty of the nerve force, but the testes suffer by all forms of cerebral tension.

Impotence due to a poverty of nerve force is common; due to malformation, rare. It is acquired by struggle, worry, strain, nerve-tire, brainwork; sexual indifference is well marked in users of tobacco, alcohol and opium habits; in such states the rendezvous of soul is withered, blighted, whittled down; the sexual appetite is extinguished by masturbation or perverted methods of congress. Venereal disease, balanitis, chancres on the glans penis destroy its finer sensibility, depreciate vigor, virile power; masturbation weakens the power of erection; so do early excesses; so do gonorrrhea, stricture, irritable and enlarged prostate; so does tightness or absence of the prepuce. The glans penis possesses the highest degree of sensibility—this faculty is paramount to all others.

Masturbation is the cause of spermatorrhea, the loss, the oozing away of the nervo-vital fluid, whether it be diurnal or nocturnal; disease of prostate; damaged, irritable, inflamed, enlarged, weakened cord and brain; then failure of procreative power. All this may be oblivious to the patient; semen passing in the urine unobserved, or at stool, or the prostatic secretion with spermatozoa may flow back into the bladder and be discharged during micturition and giving rise to impotence.

In our modern state of civilization our condition of mental preoccupation operates adversely, and is most efficacious in producing impotency. There are numerous factors at work that impair or abolish sexual power, as plethora or obesity, emaciation; the latent germs of cancer, syphilis, tubercle, which engender local atrophy, or wasting of the glands or organs. A weakening, a failure, an abolition of the sexual appetite, through or by atrophy of the testes, wipes out the rugged traces of the masculine.

Since the discovery and introduction of the organic extracts, a new era has dawned upon all who have wasted or atrophied testes.

The c. p. solution of spermin administered in cases of testicular atrophy works wonders; it is nature's remedy for building up and renovating the weakened, devitalized testes.

This is the remedy for spiritless and exhausted men—for the ambitionless and easily exhausted—all suffering from sexual atrophy.

This vital restorative, when administered, does not do one thing, it does many; but all for health, all for vigor, for it not only enriches, but strengthens, builds up and rejuvenates the whole body, and brings growth, vernal power and strength to

the weakened or wasted reproductive glands. The efficacy of the remedy, its rapid assimilation is greatly increased by the administration of the ambrosia orientalis tablets and two doses of thyroid extract per week.

DEGENERATION OF THE TESTES.—Normal sexual intercourse is a sedative and tonic, promoting sleep, calming and strengthening the nervous system. Even an auxiliary to the perfect performance of the bodily functions; whereas, excess gives rise to precisely the opposite conditions,—insomnia, nervous bankruptcy, exhaustion.

Unnatural methods of intercourse are most decidedly injurious, nay, disastrous, such as withdrawal, the use condums, and like devices; together with prolonged intercourse, and dalliance without gratification; such, together with sexual incompatibility, invariably bring irreparable ruin, impotency, with either atrophy or hypertrophy of both prostate and testes.

Of all degenerative causes, masturbation, mechanical pressure, and disease germs are the most common.

Glandular degeneration is exceedingly common, but amendable to our newer remedies, such as protonuclein, thyroid extract, c. p. solution of spermin, kephalin, avena, and that invaluable sexual stimulant, ambrosia orientalis tablets. These, with a generous phosphatic diet, seldom fail in atrophy; but in enlargement, which is made up of the products of inflammation, adventitious tissue, the products of bacterial life, alteratives and absorbents are indispensable.

Degenerative changes may attack one testicle, leaving the other normal, which may be sufficient for both internal and external secretion—the former for vigor; the latter for procreation—and both male and female children be the result of a union; for the determination of sex depends on other conditions.

The dominant energy of the male, the higher type, reveals itself; if impregnation occurs before a menstrual period, males are always the result; if impregnation takes place after menstruation, the outcome is a female, a devitalization through menstruation.

There is nothing so likely to set up degenerative changes in testes as masturbation. This is highly detrimental, and is clearly seen in the frequent seminal discharges which occur both by day and night, and to the infertile nature of these discharges. Testes undergoing degenerative changes give off a secretion which is readily seen under the microscope. If the

damage to the testes has not reflexly involved the spinal cord and brain to any extent, the discharges can be arrested by the ozonized extract of black willow bark, and the semen rendered fertile by the exhibition of such remedies as the ambrosia orientalis tablets, spermin, oats, kephalin.

Absence or degeneration of the testes is necessarily attended with absolute impotence; where they are retained in the abdomen, they may secrete, but be devoid of spermatozoa. An arrest of development diminishes virility. Celibacy, in which the testes shrink, gives rise to atrophy. Loss of the testes from disease or surgical procedure is presumptive of an inability to procreate. The use of alcohol, by hard drinkers, is followed by fatty degeneration, absolute azoospermia; but, unless long continued, does not necessarily involve atrophy. The off and on use of alcoholic drinks has a peculiar blighting effect on the spermatozoa, giving us small-brained, feeble-minded offspring. All disorders of the body, but especially the mind and testes, disease generally, but neurasthenia specially, are accompanied with either temporary or permanent absence of spermatozoa, which, if prolonged, lead to total disorganization.

All such cases are amenable to the exhibition of ambrosia orientalis tablets, to the ozonized thyroid extract, to the c. p. solution of spermin, to protonuclein, to kephalin and avena.

Degeneration of the Testes Due to the Presence of Tubercular Bacilli.—If an individual has the tubercular bacilli in his blood and possesses weakened testes, from some or other of the causes hinted at, the germ will probably invade those parts, not the testes proper, but the epididymis, implicating first one, then the other. When this takes place, the epididymis becomes hard, knotty, increases in size, in a semicircular or crescentic form. Its extension to the tunica vaginalis is signalized by the formation of hydrocele.

Azoospermia invariably precedes the deposit of the tubercular germ in the testes, and renders the subject sterile. Even in tubercular epididymitis, where the testes are so closely allied by reflex ties, it is apt to abolish the function of the gland.

The migration of the tubercular bacillus to the testes is generally the result of some irritation. When once there it is characterized by rapid growth—speedy degeneration of the testes. To be successful in treatment, the patient must be placed upon germicides, such as glycerite of ozone, mistura guaiacol, thyroid extract, c. p. solution of spermin, and for a continuous tonic comp. tinct. matricaria.

The scrotum should be bathed morning and night, well dried, then an ointment of c. p. guaiacol rubbed in, then encased in a suspensory bandage. A suppository of guaiacol is used with much advantage.

Saxifraga in these cases is invaluable; otherwise the best of nutrition. All means to build up the general health.

When the localization of the germ in the testes is followed by degenerative changes in the tubercle itself, caseous, calcareous, with abscess, general principles must be observed.

DEGENERATION OF THE TESTES IN WHICH THE MICROBE OF CANCER APPEAR IN THEIR SECRETING SUBSTANCE.—Suppose the individual with weakened or damaged testes has the microbe of cancer in his blood. It will, provided proper precautions be not taken, likely migrate, localize and grow in the weakened gland, in its secreting substance, generally in the form of a fleshy growth (sarcoma) with cancer spores. Usually the patient attributes this to an injury, but unnatural practices lie at the root of the trouble.

In this structure the microbe proliferates rapidly, the testes enlarge, become painful, general health deteriorates. In some cases they maintain their normal shape and become elastic, give a deceptive sense of fluctuation, but normal testicular sensation is lost. The germ may localize in any portion of the gland, but progressively it invades all its structures. By and by the tunica vaginalis is perforated externally by a fungating, bleeding mass. Later the spermatic cord becomes involved; and later still, the lumbar, iliac and other lymphatics become invaded, together with the viscera.

Cancer germs thus completely destroy and disorganize the parenchyma of the testes.

In the treatment of cancer of the testes, our only hope is in comp. saxifraga, glycerite of sulphur and Chian turpentine mistura, relieving pain with the comp. conium pill; locally the scrotum should be covered with conium ointment. General principles must be observed in cases where a general breakdown is inevitable, and a free use of peroxide of hydrogen introduced into the scrotum is of great value.

DEGENERATION OF THE TESTES CAUSED BY THE PRESENCE OF THE GONOCOCCUS AND GERM SYPHILITICA.—Although the gonococcus, the pathogenic microbe of gonorrhea, is too feeble to enter the blood, when in the urethra or vagina, it is liable to migrate to the prostate and testes of the male and the uterus and the ovaries of the female, when sporulation, if the health

be feeble, takes place with amazing rapidity, giving rise to a very stubborn form of impotency.

The germ syphilitica, a vigorous pathogenic microbe, enters the blood, and like all other disease germs, takes up its abode in the weakened tissues or glands, and in the testes; this microbe forms nests or cysts, usually in one or other of three forms, cystic fibroma, cystic myxoma, sarcoma, usually mixed with cartilage and pieces of unstriped muscle. The cysts are commonly lined with spheroidal or flattened epithelium.

Syphilitic orchitis is the common form, and involves impotence by destroying the secreting power of the organ.

The testes proper become uneven in syphilis, the testicular sensation is lost.

The epididymis remains unaltered until lost in the encroaching testes. Pain may be absent or confined to an aching in the loins.

One organ usually first becomes enlarged; the other, if no treatment is resorted to, soon follows. Later they may degenerate into a fibrous mass.

In the treatment of gonorrhea the greatest precautions should be observed that the testes do not suffer from the migration of the germ from the urethra; hence copious injections of the distillation of eucalyptus, after each micturition; internally that sovereign remedy, llaretta. If this course be pursued, there will be no complications.

For the destruction of the syphilitic germ in the testes, comp. saxifraga is the remedy, persistently administered. The chloride of gold and platinum is also efficient. Phytolacca is excellent. The thyroid extract treatment has been successful in my hands. An ointment of the periodate aurum is of great efficacy rubbed into the testicle morning and night.

VARICOCELE.—A varicose condition of the veins of the spermatic cord and testes.

It may be either the result of inherent debility or a weakness acquired by masturbation or sexual excesses, or abnormal methods of coitus, and intercourse with courtesans.

Large or small in extent, it invariably gives rise to imperfect nutrition of testicle; and if not thoroughly appreciated by the attending physician, and the proper remedies prescribed, it terminates in impotency.

Neglected or overlooked it may become quite large, and as it enlarges it destroys the delicate glandular structure of the testes, and gives rise to complete impotency; reflexly its irrita-

tion gives rise to seminal losses that cannot be relieved until the varicocele is cured.

The recognition of varicocele is easy; the history of the case—the left side; a swelling, dilating when he coughs, disappearing some or altogether when he lies down; reappearing when in the upright position; feeling like a bag of worms; atrophy of the testicle, and complete impotency; imperfect circulation and seminal disease, with aching and peculiar itching on the skin of the scrotum, are a few of the landmarks.

Its constant irritation, the dragging in the back, and general progressive debility, with complete loss of sexual power, soon attracts the attention of the sufferer.

The inability for coition is a physical disability, a loss of erectile power. The sympathetic soon becomes involved and a feeling of disgust toward his partner, and a lack of self-confidence soon takes place. In such cases there is a combined oozing of semen without the slightest erection. Impotence becomes so complete that even the closest contact with the opposite sex fails to revive the faintest scintillation of an erection. If by chance the slightest erection should occur, a premature discharge of thin, watery, infertile semen follows; besides, the ejaculatory ducts are relaxed, patulous, unable to hold the semen, and it dribbles away, and the muscular fibres of the prostate are paralyzed and unable to promote the ejaculation of seminal fluid.

The deductions founded on an observation of over 5,000 cases are: that the dilated or varicose veins are found in one or other of three varieties—the veins of the cord, dilated, elongated, extending from the external abdominal ring down to the testicle; in other cases, a large globular swelling massed around the testicle, extending upwards, and in some other cases it begins at the external ring and proceeds downwards.

The anatomical relation of the parts is always of importance. The left vein is always longer and larger than the right; moreover, it receives one or more (generally two) branches from the descending colon; these colico-spermatic branches, which communicate with the radicles of the portal system, vary greatly in size; also the junction of the pampiniform plexus to form the spermatic vein may take place at any point between the level of the external abdominal ring below and the middle of the iliac crest above, the commonest situation being either just below the upper end of the inguinal canal, or immediately inside the abdomen above the internal abdominal ring. The

valves in the veins and plexus may be absent altogether, or may be very numerous; abnormalities are rare on the right side, but comparatively common on the left.

The testicle is generally imperfectly developed, and is often considerably softer or even smaller; in some cases very small and hard. The softness and smallness are due to improper development, to the irritating effect of masturbation or sexual perversion.

In the cure of varicocele, not a ray of hope is to be obtained from any surgical proceeding which consists in the ligation of the veins of the cord, an operation not only dangerous but futile.

Eighty-five per cent of persons coming under observation with varicocele showed evidence of varix in other parts, scars of old navi, etc.

In the treatment of this affection all causes must be removed, especially masturbation, falls, strains, hoisting, bicycle and horseback exercise.

The general health should be improved by every possible means; tonics, alteratives, massage, best of diet—everything calculated to build up and reinvigorate the general health should be resorted to.

The scrotum and the surrounding parts should be thoroughly bathed morning and night, thoroughly dried, and subsequently literally drenched with the ozonized distillation of witch-hazel.

After the morning bath, the scrotum should be encased in a well-fitting suspensory bandage during the day, and at night thorough bathing and saturation with the witch-hazel.

This preparation of witch-hazel has many valuable properties which no other form possesses, namely, it holds in suspension more hazelin, which is thea ctive principle, and penetrates thoroughly. This element exercises a most remarkable action upon all veins, for which it has an affinity; it is a tonic, highly vitalizing to the coats of the vessels; bracing, astringent, and is of essential service in all cases of varicocele.

It is thus of signal value; incomparable in its action, excelling all other local applications.

As a tonic in this affection, our preference is for the comp. tincture of matricaria, as it is superior to all other general remedies.

Decide at once upon a reliable tonic, and then a special course of treatment should be decided on.

The cure of varicocele by the animal extracts has been demonstrated to be a success, the exhibition of the thyroid extract and c. p. solution of spermin having the preference. Both are administered internally, and the thyroid in the form of an oleate rubbed over the affected veins at night.

The success resulting from this treatment has been immense. We could enumerate many hundred cases which were pronounced incurable which have been radically cured by this method.

The matricaria before meals, the spermin two hours after eating, with occasional doses of thyroid. These extracts have been extensively used with success in the cure of varicocele.

Another remedy of intrinsic value has been utilized in the cure of this affection, namely, protonuclein. It is administered orally, by suppository, and by hypodermic injection into the cellular over the dilated veins, or by denuding the skin with cantharidal collodion and dusting it on. Successful specialists avail themselves of this active principle, obtained from the internal secreting glands, in place of the hitherto more commonly employed nuclein obtained from yeast.

No medicament has ever exhibited such power in vitalizing the weakened veins by promoting a renewal of life by leukocytosis as protonuclein.

The saw-palmetto suppository has a vitalizing action on the testes and veins of the spermatic cord, and never should be overlooked. The internal use of the remedy in the fluid extract form is of little value; but in suppository form, where it lies and melts over the gland, it is of immense value.

WRECKAGE OF THE MALE SEXUAL ORGAN.—Disease, degeneration and death of the sexual organs of both sexes are marvelously on the increase, owing chiefly to the alarming, widespread dissemination of the gonococcus, and devastating influence of the venereal bacillus, masturbation, and perversion of the sexual act. A large number of such conditions are the chief cause of sexual incompetency, structural change and atrophy of the testes.

Of the various morbid states of the testicle, none are so common as cystic conditions due to the above causes.

Next in order of frequency is an atrophied state of the testis; then follows varicocele of the cord, and encysted hydrocele of the testis. This latter state consists of cysts arising in connection with the testicle, but outside of the tunica vaginalis. Such cysts are of two kinds, either small pedunculated bodies, in the

cavity of the tunica vaginalis, or outside of it. Such cysts rarely exceed the size of a large cherry. One only or several may be present. These cysts arise from the tubes, and if the cause of production be still present, they may attain the size of an orange, and so envelop the testis as to be mistaken for a hydrocele. Such cysts may contain clear fluid, or partly sanguineous or even spermatozoa; the presence of these bodies being accounted for by the close relation of the parts to the general excretory ducts of the testis. The lining epithelium of such cysts may be flattened, cubical, columnar, and even ciliated.

The same causes give rise to adenomata of the testis. Usually these tumors are reported as cystic sarcomata, cystic fibromata, or myxomata, all equally unfortunate terms. It may be easily shown that many of the adenomata arise outside the true tissue of the testis, for in most of them the body of this organ is flattened out until it forms merely an attenuated covering to the tumor.

The victims of sexual impotency and wreckage of vital parts of the generative organs are our drained-out youths and middle-aged libertines.

The testes in such cases fail to secrete. Or if they do, the spermatozoa are dwarfed, infertile.

Such degenerative changes as testicular cysts have, by the older remedies, been deemed incurable; but selected drugs from our modern materia medica not only palliate, but retard, and in some cases their use is attended with decided benefit. A general alterative and tonic course is invariably beneficial. In all forms of testicular atrophy we have derived great benefit from either the exhibition of the ambrosia tablets comp. or comp. matricaria before meals; with teaspoonful doses of c. p. solution of spermin two hours after eating, with occasional doses of kephalin or avena or thyroid extract. The persistent administration of these have a marked action in exciting the evolution, growth, size, number and activity of the spermatozoa, at the same time the testis, for if the semen reappear, it is a sure sign of returning health.

Incasing the scrotum in a suspensory bandage, lined or coated with saw-palmetto ointment, and administering protonuclein in suppository form, so as to induce leukocytosis in the testes, has proved of service in my hands in many cases.

INFLAMMATION OF THE PROSTATE GLAND.—Partial death of the prostate may be the result of some injury. The rude

introduction of catheters; exposure to cold; to the presence of gouty elements in the blood; to the microbe of gonorrhea; structures, masturbation, sexual excesses, perversion of the sexual act—incompatibility; horse and bicycle exercise and many other conditions, all of which give rise to inflammation, gleety discharge and enlargement. In the treatment of all forms of irritation and inflammation of the prostate, rest in bed, dry heat to the perineum, demulcent drinks, barley-water and sweet spirits of nitre.

The largest possible dose of green root tincture of gelsemium and passiflora incarnata should be administered which the patient with safety can take—their physiological action maintained by frequent administration until all symptoms have ceased. The action of these two remedies can be greatly aided by the alternate administration, every three hours, of à cocain and boroglycerid suppository, and should be continued for some months.

As soon as every vestige of inflammation has ceased, an alterative and tonic course of treatment should be pursued for some months, of which comp. saxifraga should be the leading remedy.

Unless such a course as the above is pursued, the case will run into either prostatorrhea or hypertrophy.

CHRONIC PROSTATITIS.—Probably there is no nation outside of France in which chronic inflammation of the prostate is so common as in the United States of North America. The very great prevalence of this malady may be due to venereal excesses, masturbation, sexual perversion, cycling, gonorrhea, stricture, sedentary habits, passage of instruments into the bladder, certain drugs; one or all tend to keep up an irritation, a congestion of the prostate, but especially the prostate urethra; the irritation following the track of the mucous coat to the gland, the substance of which may be normal.

An irritable, congested prostate urethra gives rise to frequent, often difficult micturition, with a slight bearing down and uneasiness in the perineum, with the passage of a mucous discharge, simulating the discharges of spermatorrhea, much greater when at stool. If it is an old chronic case, the sensibility may be in a great measure blunted, and the difficulty of urination may not be great, although the force of the stream and dribbling after micturition may be prominent, owing to the spasm of the compressor urethræ. A very significant train of symptoms are frequent erections, erotic desires, with frequent

seminal emissions, followed by either partial or complete impotency. Neuralgic pains may exist in back and groin, and the moisture or weeping from the orifice of the urethra may be variable, consisting of mucus, prostatic secretion, pus flakes and spermatozoa. A rectal examination shows the prostate to be enlarged and tender. In old cases, residual urine likely to be present from the enlargement.

Chronic inflammation of the prostate, which is quite common in men between thirty and forty years, must not be confounded with the general hypertrophy incidental to old age, which occurs over sixty-five, the result of natural decay.

The treatment of chronic prostatitis in men under sixty should be both general and local; every article of diet and drink which gives rise to the formation of uric acid should be carefully avoided; sleep upon a hair mattress; have moderate exercise in the open air; bowels kept open, abundance of nourishing food given, and the urine kept in a neutral condition by saline diuretics.

As for remedies to bring about a renewal of life in the prostate I have found the alternate use of the ozonized extracts of black willow and saw palmetto internally to be unexcelled as vital restoratives to the entire reproductive system; their oral use can be greatly aided by bougies and suppositories of the same. Indeed, the direct method of applying remedies, especially the cocain, saw-palmetto and black-willow suppositories, and the soluble ozonized bougies to the devitalized parts, is a great step in advance.

The sedative action of the green root tincture of gelsemium is greatly enhanced by adding it to double the quantity of passiflora incarnata.

Just as soon as a slight improvement takes place the saw-palmetto suppository should be used thrice daily.

The secretion of the prostate acts as a vehicle in which the spermatozoa are floated; a milky fluid, showing under the microscope cylindrical epithelial cells, white blood-corpuscles, amyloid bodies and glistening granules. If a few drops of a one per cent solution of phosphate of ammonia be added to the fluid under the microscope, spermatic crystals are formed. In all irritable conditions of the prostate, whether the result of a gonorrhea, or masturbation, or spermatorrhea, or sexual perversion or senile enlargement, there is a catarrh of the prostate which is often chronic and troublesome to cure; with it invariably spermatozoa escape. In such cases, the saw-pal-

metto suppository is the most efficient remedy, one morning and noon and an ichthyol suppository at bedtime.

The medicament in this form lies right behind the prostate, melts and by endosmosis penetrates the gland; much more efficient than any remedy on the stomach.

PROSTATORRHEA.—A catarrh from the prostate gland, which consists in a discharge from the prethra of the prostatic secretion. This affection may exist without any active inflammation of the prostate, being simply a state of weakness, relaxation, with a slight degree of irritation, passive congestion, which gives rise to hypersecretion from the tubular glands of the prostate. It often exists without any assignable cause, and enters largely into and acts as a complication to numerous other disorders.

The causes which give rise to this catarrhal condition of the prostate are very numerous, such as masturbation, perversion of the sexual act, as in dalliance, or withdrawal in the act of ejaculating the semen; marital excesses; wearing condums; sexual incompatibility; having congress with women whose vaginas are large and whose sphincter fibres have lost their contractility, or who suffer from leukorrhea, prolapse, intra-uterine catarrh; imperfectly cured gonorrhea; chronic inflammation, stricture; spasm of the compressor urethræ muscles; rectal disorders; intemperance in eating and drinking; sedentary habits; horseback exercise; bicycle riding.

The use of certain drugs, as copaiba, cantharides, spirits of turpentine; cathartics, as aloes, colecynth.

Whatever is likely to cause a determination of blood to the part.

The most prominent symptoms of the disease consist in the discharge of either a ropy, viscid mucus, or a thin milky exudation from the meatus, so slight in some cases as to simply agglutinate the lips together, or there may be several drops or more, sufficient to induce a sensation of wetness, and constituting what is termed a weeping penis. Much or little, there is always an increased quantity expressed from the urethra in straining at stool, or in the act of micturition, sneezing, coughing, laughing, riding, drinking malt or alcoholic liquors, and by the contraction of the perineal and other muscles. The escape of this fluid is occasionally attended either with a sharp stinging, or even pleasurable sensation. In some cases the patient may experience a dropping sensation in the urethra, due to a reflex contraction of the muscular substance of the

prostate, induced by a repletion of its glands with the secretion and its consequent discharge into the prostatic sinus, or there may be a constant feeling of moisture in the canal. All these abnormal sensations are increased by erections.

In addition to those symptoms there is often frequent and urgent desire to evacuate the bladder, occasional scalding in urination; if coition takes place, the ejaculations are hot, painful; a sense of weight and fullness in the rectum; pain in the perineum increased by standing, exercise, or warm weather; pain, radiating through the pelvis, hips, groin, thighs; a constant sense of weariness about the loins; nervous exhaustion; hypochondriasis.

The diagnosis of this affection is based entirely on the microscopic appearance of the discharge, not on any symptom mentioned by the patient, because the escape of this fluid causes him great alarm, as he firmly believes that he is suffering from a loss of semen, whereas the discharge contains no spermal elements; still the frequency and persistency of the moisture, the slimy urethral discharge at stool exercises a most damaging effect on the mental and bodily organism of the patient. It is true, that in some cases there may be an involuntary discharge of semen with it.

If the discharge be placed in the field of the microscope there will be seen epithelial casts; refractory and colorless granules of lecithin; minute yellow, concentric amyloid concretions and phosphate of magnesium, and an entire absence of spermatozoa.

True, the spermatozoa are very often mutilated and mixed with other secretions, and are difficult to detect.

Catarrh of the prostate gland is a very common sequel of gonorrhea when of long standing, badly treated, or when it occurs in patients whose health is out of order or impaired; it may also follow sexual excesses, masturbation and perversions of the sexual act. Other sources of irritation, as bicycle exercise, stone in the bladder, uric acid in the urine, and diseases of the rectum.

As a rule, the catarrhal discharge is extremely contagious, being loaded with a variety of germs; it is most decided after inflammation and when complicated with cystitis and epididymitis.

In chronic prostatorrhea, enlargement of the lobes or general hypertrophy, there is a discharge, turbid, loaded with cell elements, pus-corpuscles and prostatic degeneration, milky flocculent.

The diagnosis of such cases is most important; too much stress must not be laid upon any one symptom; a microscopical examination of the discharge should be made, for if the colorless or whitish drop contains spermatozoa, the case is spermatorrhea and not catarrh of the prostate.

In making a diagnosis, we must bear in mind that the normal function of the prostate is to furnish an alkaline fluid in which the spermatozoa may float, and like the sexual apparatus itself, is kept in a healthy condition by the co-ordination of the nerve centres. The proper secretion of all glands depends on a healthy nervous system. If the centre is perverted, the circulation of blood through the prostate is vitiated. The seat of sexual desire is in the base of the brain. The nerve centre for the sexual organs is situated in the lumbar enlargement of the function is perfect; but when sexual glands discharge their peculiar secretion into a common emunctory or outlet, it is difficult without microscopicl aid to positively distinguish them.

In prostatorrhea there is no semen, no loss of that brain secretion which is intrinsically the most valuable fluid in the body, life itself, one ounce of which is richer by far than forty ounces of arterial blood, the loss of which in chronic prostatitis and spermatorrhea enervates, whittles down, produces premature decay, lost manhood, fills our lunatic asylums, and gives rise to suicidal mania.

The point of diagnosis is that in the white, slimy, glossy or milky catarrhal discharge from the prostate there is no semen.

In forming a prognosis, it must be clearly understood that it is always a most obstinate affection, unless it is subjected to early and persevering treatment. Besides, it is one which gives rise to great mental disquietude and it is often difficult to impress upon the patient the true nature of the disease.

In the treatment the cause must if possible be removed, a mild but efficient alterative and tonic course of remedies brought to bear on the case; bowels must be kept regular by every possible means, the use of kola-nut paste, enemata of tepid water; morning and evening a sitz bath; a generous diet inculcated. Rigidly forbid driving, riding and walking, as prolonged exercise excites pain in the perineum and aggravates it if present. Also the non-use of alcoholic and malt liquors. Sexual congress, unless there be seminal incontinence, should also be restricted.

Nearly all our remedies should be directed to the morbid

sensibility of the prostate: to the loose, patulous state of the mouths of the ejaculatory ducts, which permits of this weeping; to the atony of the vesicles, so as to obtain a cessation of the discharges.

We shall briefly enumerate a few remedies from which we have obtained the greatest benefit:

Belladonna, green root tincture of gelsemium, bromide of soda, tincture of strophanthus, are each and all of the greatest utility in this state of exaggerated sensibility of the prostate.

Virginia stone crop, ergot, stone root, are valuable remedies to induce contraction of the open and lax ducts.

It is doubtful if we have a better remedy in the materia medica than the fluid extract of the black-willow bark for the purpose of vitalizing the prostate and ejaculatory ducts, cutting off all leakages. This remedy is a powerful sexual sedative, and although it has the faculty of checking any oozing, it does not in any way diminish virile power or passion—it entirely overcomes the congestion or hyperesthesia of the prostate urethra.

To engraft upon the irritable prostate a condition of quiescence and contraction, either of the following prescriptions will be found of utility: Ozonized glycerite of kephalin, one pint; sulphate of quinine, two drams; fluid extract of ignatia, three drams. Mix. Dose, a half teaspoonful before meals. Or, glycerite kephalin, four ounces; fluid extract of damiana and saw-palmetto, of each, two drams; fluid extract nux vomica, one dram. Mix. Dose, one teaspoonful, as above. Or, fluid extract ergot, two ounces; fluid extract ignatia, one dram. Mix. Dose, from a half to one teaspoonful, as above.

Iron and cantharides will often get rid of the relaxation and atony of the duct.

The cocain suppository should be used in every case of prostatorrhea. Its action is most decided, most effectual, in relieving vesical tenesmus, or if senile hypertrophy exists, if the patient has to get up frequently during the night for micturition, or if he is unable to sleep. It is one of the best of all remedies, and should be used in alternation with the salix nigra suppository.

Prostatorrhea is essentially a malady of our neurasthenic young men—a most common affection—indeed, one that is sapping the growth, vigor and future prosperity of our nation, draining its strength and energy. And if the places of the robust and healthy are to be filled by those effeminate, weak-

ened, nervous and physically drained youths, it will be disastrous indeed. To such we call attention to the soluble gelatinized bougies, composed of thallin and cocain, to be inserted up to the mouths of the weeping ducts in the prostate urethra. These are most successful in inducing contractility and in stoppage of the leakage.

RESORCIN.—When chemically pure, occurs in white, shiny needles, having little taste or smell. It is obtained from resins by the action of fusing alkaloids.

Therapeutic Uses.—A powerful germicide, destroying the microbe of diarrhea, whooping-cough, the germs of malaria, erysipelas.

It is useful locally in the treatment of epithelioma lesions, as it exerts a powerful annihilating effect on recent germ formations.

By inhalation, or in topical applications of a 1 per cent solution applied to the throat, it destroys the micrococci of whooping-cough.

Doses.—Freely soluble in water, ordinary doses 5 to 15 grains every three hours.

Ozonized resorcin ointment is invaluable in the cure of skin cancer. Applied once or twice daily, rapidly causes exfoliation of the malignant mass. Cutaneous cancer of the nipple quickly peels off when it is kept constantly applied. Its strength should be 20 per cent added to ozone ointment.

RESORCIN JELLY.—Ozonized resorcin jelly is one of the products of high-class pharmacy—made with a special menstruum so as to hold its germicide properties intact.

It is an invaluable remedy in all cutaneous affections, painting it over the diseased part and covering with oiled silk.

It may be sufficient, one application per day; in more chronic cases, two applications.

Recently it has acquired quite a reputation in the cure of infantile nasal catarrh.

The jelly is applied freely to the nasal cavity by means of a camel's hair brush, filled and worked well backward. Even good results are obtainable if permitted to run down on the fauces. A few applications are usually necessary.

To the exclusion of all other treatment, it has been used this past winter in many of the large children's homes with unparalelled success.

RESPIRATORY DISEASES.—The commencement of a

large number of diseases of the respiratory organs, in their incipiency, is usually a common cold, due to vicissitudes of temperature, from which no individual in our variable climate is exempt, especially in spring and fall.

Usually the lining membrane of the nose is congested, there is a sense of heat, irritation and stuffing, and after a few hours, serum containing bacteria is effused, poured out in large or small quantities, in proportion to the amount of partial death present, and as it comes in contact with the skin, causes irritation. Gradually the bacteria-loaded, acrid serum becomes thicker, assumes a yellow color and peculiar odor; as this change takes place, the nostrils become free, the stuffed-up feeling in the head passes off, the secretion diminishes, and resolution takes place.

The old treatment with a combination of tinctures of aconite, gelsemium and ozonized passiflora equal parts; add to it a few drops of glycozone every one or two hours, at the same time using a pinch or two of iodol snuff. Promptly, as if by magic, the cold or nasal catarrh is cured, but if neglected:

Chronic Nasal Catarrh follows, either an acute attack, or may come on of itself from the continued action of the toxin of some disease germ such as remote syphilis in the blood or some irritation.

The symptoms resemble the acute, but there is no fever, no copious secretion; still it is tenacious and irritating, collecting and hardening in masses in the nasal passage, forming scabs; if forcibly removed, bleeding may ensue.

In this state of partial death, there is microbic evolution of the pathogenic germ, the "Ameba," whose toxin partially paralyzes the vocal cords, hence the change in the voice; impairs the function of the olfactory nerve, hence the loss of smell; lowers the cerebral cortex, hence headache and epilepsy; poisons and deteriorates the blood, hence the white skin, dilated pupil, anemia. The deafness, often present in these cases, may be either due to the migration of the ameba up the Eustachian tube to the ear, or the toxin of the germ paralyzing the auditory nerve.

If the patient is young, inhalation of ozone et chlorine may be tried, followed by iodol snuff, but if he has reached maturity, and willing to suffer a little, nasal catarrh can be positively cured in one treatment—every disease germ ousted from the respiratory tract by doching with the ozone et chlorine; this on application should in all cases be followed by the use of iodol

snuff, so as to keep all microbes in abeyance until the affected tissues regain their normal integrity. If the attending physician deem the ozone et chlorine douche too severe, a solution of c. p. resorcin, from one to two grains to the ounce of water, can be substituted, but as it is not so instantaneously effective, it may have to be repeated several times. Follow this also with the iodol snuff, a pinch several times daily for several months.

If chronic nasal catarrh be neglected, improperly treated, it never remains stationary, but either gets well or passes into ulceration of the mucous membrane and exposure of the cartilages, with an indescribable odor, termed ozena, in which the discharge is entirely of germinal products.

OZENA is simply chronic nasal catarrh, with ulceration of the mucous membrane, with exposure of the cartilages, and the evolution of the bacillus saprogenes, which imparts to the discharge and expired air that indescribable fetor, which becomes worse as the osseous tissues become involved, and constitutional debility increases.

The odor is characteristic, the discharge containing the *débris* of a multitudinous variety of disease germs not so diagnostic. Usually dependent on this nasal difficulty there is loss of flesh and strength, a peculiar pallor of the skin, mental dejection, loss of energy. The most successful constitutional treatment of ozena is the administration of the glycerite of ozone, mistura guaiacol, c. p. solution of spermin, and a local treatment of a warm, soothing, astringent, germicidal vapor, inhaled for fifteen minutes every two or three hours; to this inhalant add either a few grains of resorcin or permanganate of potassa, or the same by douche. By means of this form of medication the whole diseased structure is acted on, the microbes all destroyed, irritation allayed, a process of healthy cicatrization commenced, in this mode of treatment. Recently I have added to this treatment, painting inside of the nostrils several times daily with the jelly of violets. I find this extremely beneficial, exerting a powerful, rapidly curative action upon the diseased structure.

In some cases of ozena I have met with the best success in douching the nose with the ozone et chlorine.

EPIDEMIC INFLUENZA.—Here all the ordinary symptoms are visible, as sneezing, serous discharge from nostrils; but as there is a pathogenic microbe either as an evolution or factor, and it is remarkable for its infectivity, the constitutional symptoms are of much intensity—prostration, rigors, fever, ex-

cruciating headache, chiefly confined to the forehead, with aching pains in all the bones.

Epidemic catarrh is often troublesome, giving rise to persistent coughing, noises in the head, and as the microbe emigrates backward along the Eustachian tube to the ears, impaired hearing. In all cases there is a peculiar gone-feeling experienced, a weak heart, an indescribable sinking. Extremely contagious and infectious, every individual in close proximity is liable to become affected.

For several years past this microbe has put in its annual appearance from November to May with remarkable regularity, the toxin of the germ striking weak but vital parts. It is quite unnecessary to state that we have here a dangerous and fatal malady (positively fatal if you administer phenacetin), highly contagious, and it is proper to confine the patient to bed for a few days, at the same time exposing formalin, one tablespoonful to a quart of water; divide into half a dozen of hollow plates, distribute in different locations of the apartment. Paint his nostrils, his fauces, his ears, with the jelly of violets thrice daily. Administer internally concentrated tincture of kurchicin in small doses, but repeat frequently until he either sleeps or a fine dewy perspiration is established; subsequently keep on administering, but in smaller doses, a longer interval apart.

The addition of this new remedy, jelly of violets, completely annihilates the microbe—renders their abode untenable. It insures a perfect, rapid recovery. No pneumonia or other complication follows.

Whenever the concentrated tincture of kurchicin is administered in epidemic influenza, there is *no* marked impairment in vitality; *no* loss of strength; *no* mental despondency; *no* bronchitis; *no* pneumonia. It is a remedy that augments vital resistance; keeps the nervous and mental phenomena at a high standard.

HAY-ASTHMA.—Any irritation of the nerves of the bronchi may give rise to spasmodic contraction of their circular muscular fibres; as the irritation is mostly from without, the spasm generally takes place after an inspiration, with retention of the inspired air in the cells.

Every man or woman suffering from neurasthenia, or neuroses of the olfactory or bronchial nerves, will have to face what is termed hay-asthma, in other words, the inhalation of the aroma of grasses, roses, grapes, ragweed, flowers and other forms of vegetation.

Usually such cases are ushered in with symptoms of a common cold, a catarrhal condition, sneezing, watering of the nose and eyes, pricking sensation in the throat, itching, tingling, cough with difficulty of breathing, which very speedily develops into full-fledged asthma, with its paroxysms of wheezing and suspended respiration. In this form of asthma the pollen of grasses or flowers comes in contact with the periphery of nerves (nasal and bronchial), excites the contraction, and like all other nervous diseases occurs in paroxysms, accompanied with great constriction; generally the paroxysms begins with severe cough and expectoration, the contraction of the circular muscular fibres following the inspiration with violent respiratory efforts to expel the air.

The true etiology, being neurasthenic, with a nervous system highly impressible, the inhalation of dust, pungent fumes or odors, irritating particles may produce a spasm by causing the evolution of the microbe of asthma.

The condition, repeated summer after summer, gradually causes either rupture of the air cells, or their disorganization with emphysema.

By the removal of the nasal and bronchial neuroses by overcoming the neurasthenia, it is possible to effect a cure; this of course involves a general course of alteratives and tonics, bathing, massage and best of food; such tonics as c. p. solution of spermin, comp. tincture matricaria. For the breaking up of the spasm, with its wheezing respiration, constriction with impending suffocation, the newest and most successful mode of treatment consists in painting the inside of the nostrils with the jelly of violets, an anesthetic and germicide of great power and value. This remedy so applied renders the soil unfit for the evolution of the microbe of asthma, and kills off those started into existence.

Simultaneously with the application of the violet jelly, small doses of euphorbia pilulifera should be given.

Last autumn I had quite an experience with those two remedies in summer asthma, and even in localities that were antagonistic to the well-being of the patient.

Every patient of whom the physician realizes the slightest possibility of the evolution of the microbe of asthma in the respiratory tract, should at least be placed upon this treatment, as it is the best that has ever been presented to the profession; it never fails if properly applied.

Hay-asthma, or summer catarrh, due to the pollen of grasses

and flowers, is often effectually cured by using a snuff of ozonized iodol, gargling the throat with a wash of boroglycerid, which is very soothing. The jelly of violets is excellent. In studying the *modus operandi* of all nasal remedies we must accept the theory that hay-asthma is due to a neurosis or idiosyncrasy on the part of neurotic individuals who are liable to become affected by certain emanations. There is little doubt of that, that the pollen of plants is the agent which produces the impression on sensitive nerves—this is distributed through the atmosphere at fixed seasons of the year.

Either the application of the iodol snuff, or jelly of violets, renders the nerves of the nose invulnerable to the effects of any pollen, even to a field of clover or ragweed, the most dangerous of irritants.

As an internal remedy ozonized passiflora incarnata, in quite large doses, on the approach of vegetable growth, and its continuance during the summer and fall.

ACUTE LARYNGITIS.—The larynx commences at the root of the tongue and extends below that singular prominence on the front of the neck, popularly known as the "apple of Adam." It is composed of several strong cartilages, which serve as a framework to protect the delicate organs of voice. Being furnished with vibrating chords, it forms a perfect musical instrument, more or less under the control of the will. The entrance into the larynx is guarded by a valve, attached to the root of the tongue, called the epiglottis. On the approach of food or drink this valve prevents these from passing into the windpipe, acting as a sentinel which calls into action the muscles which serve to close this aperture. Below the vocal cords, which are situated from half to three-fourths of an inch lower down, the larynx enlarges, becomes irregular, and terminates in the "trachea." The whole length of the passage to which the name larynx is applied is not more than two inches, and those two inches of tissue are, in all highly civilized men, abundantly supplied with branches of the great sympathetic, like the anterior portion of the heart and lower lobe of the right lung.

Fret, worry, struggle, some emotional condition predisposes to inflammation of that structure. Ushered in with rigors, extreme nervous depression, sore throat, indescribable restlessness and anxiety, extreme difficulty of breathing, inability to swallow and great tenderness over the part on pressure, plastic lymph is early effused, become organized, blocks both the in-

gress and egress of air, gives rise to aphonia, unable to speak above a whisper, a peculiar wheezing sound in respiration; as the case progresses, lividity of the face, eyes protrude, patient tosses about, gasps for breath, and from the non-aeration of the blood and the toxin of the various germs present, a comatose condition sets in.

It is a malady which runs its course with extreme rapidity, almost invariably terminating fatally; it therefore calls for prompt and energetic treatment.

Thoroughly appreciating its fatality a course of treatment very simliar as laid down for pneumonia is best suited for acute laryngitis, namely, veratrum viride, administered in small doses, but frequent, and persevered with till the pulse is below 70, then not to be discontinued, but given in same dose, but at longer intervals. Sulphide of calcium to maintain a fluid state of the blood, alternated with ozonized passiflora incarnata and sulphate of quinine.

TUBERCULOSIS.—In all cases of tuberculosis these exists a primary condition of neurasthenia—a state in which there is either an evolution, or inhalation of the tubercle bacillus, contracted from some source either human or animal, enters the blood and is effused in some weakened or vulnerable portion of the body. Close contact, or the use of drinking vessels, etc., and the existence of a large number of cases of lung tuberculosis, would indicate a very large percentage due to inhalation. The dried sputum on the floors and walls, even in small quantities, contains millions of germs. By mere want of thought, the habit of expectorating on the streets, in conveyances, in any location in which it can become dried, pulverized, the microbe is disseminated through the atmosphere, adheres to paper upon the walls of houses, which becomes a source of infection.

There is no doubt that a very high standard of health among the population generally, and the destruction of the sputum before it is dried, would protect the people at large from infection.

Acute and chronic tuberculosis, where the prominent symptoms of the case are extreme debility, aphonia, hemoptysis, great emaciation, cough with tubercular expectoration, lungs clear on percussion, with night-sweating and difficult breathing, in which some of the following remedies proved curative, namely, inhalations of guaiacol and pine oil, pine-tree tablets: glycerite of ozone, mistura guaiacol, and suppositories; and the

symptoms in the chronic form infiltration of the apices of the lungs with the tubercular bacilli, difficult breathing, cough will tubercular expectoration, hectic fever, night-sweats, etc., in which the same remedies were used, with guaiacol plaster over the consolidated lung. In all the cases, the leading symptoms were hectic fever and night-sweats due to the toxin of the tubercular bacilli paralyzing the sweat ducts—the only remedy which seemed to ameliorate this symptom was mistura guaiacol and guaiacol suppositories. Their administration annihilated the germ and had at once perfect control of this source of weakness. These are ideal drugs, acting promptly in all cases, relieving not only sweats but every symptom under the persistent use of guaiacol. No more exhausting debility; no hemoptysis; no more cough with tubercle; no disturbance; no more irritation of the gastrointestinal tract; three doses of the mistura guaiacol during the day, with one suppository at bedtime, effected very marked results.

In cases where there is cough and difficult breathing, either tar syrup or pine-tree tablets should be given.

The pine-tree tablets should be used to ease a cough, not to stop a cough; coughing is nature's method of getting rid of expectoration-products of inflammations and disease germs. To remove the cough permanently in all lung affections we must get rid of its latent source. These tablets are paralyzing to all disease germs in the lung, they increase the ease of expectoration, they decrease the viscidity of the secretion, allay, soothe the irritability of the inflamed surface.

RETENTION OF URINE (*Micrococcus Urea*).—This microbe appears in the bladder, in all cases of retention of urine, from whatever cause, paralysis of the bladder, enlarged prostate, stricture, or when urine is permitted to stand exposed in a warm place; the transformation of urea, the nitrogenized principal into ammonia and carbonic acid. This microorganism is evolved and appears in the form of free globules, of articulated filaments, or chaplets, innumerable cocci.

The microbe is the cause of ammoniacal urine, and is pathogenic of retention of urine, bears cultivation well in an ammoniacal fluid. Its injection into an animal gives rise to the disease. It can also be carried by bougies, sounds, catheters, clothing.

Once the retention of urine is overcome, the microbe is easily sterilized by injecting the bladder with boroglycerid or

by the introduction of papoid or thallin, or other bactericide bougies into the bladder, permitting them to dissolve.

RHEUMATISM.—An affection of profound debility, in which there is an evolution in the blood of the bacillus amylobacta a pathogenic microbe, which has a remarkable affinity for the white fibrous tissue of the body, such as the synovial membrane of joints, the sheaths of muscles, pericardium of the heart, the periostum of bones, pleura, peritoneum, and membranes of brain. It is customary to divide it into acute and chronic.

The acute form is accompanied by fever, most common in the young; the chronic form in advanced life.

It is a malady easily recognizable: the profound debility; the intense acidity of all the secretions and excretions; the breath, saliva, sweat, urine; the wandering pains shifting from joint to joint; extreme restlessness; fever; joints swell, inflame; pain is excruciating; even with a high fever there is a tendency to metastasis from one white fibrous tissue to another. A high temperature is common, with profuse acid sweat and sudamina; scanty, high-colored, acid urine; constipation, valvular cardiac complications; a peculiar pungent anemia, due to the microbe deteriorating the red corpuscles of the blood. The duration of the existence of the germs depends altogether on the efficiency of treatment.

In all cases, no matter how it attacks, blunt the sensorium to pain, that is, divide one comp. conium pill into four parts, administer one part every hour until an alkaline condition of the secretions is established.

Administer fifteen drops of the ozonized glycerite of wintergreen at frequent intervals, until temperature and pulse are normal; then at longer intervals, simply maintaining the position gained—the complete wiping out of the microbe.

The action of the glycerite of wintergreen may be much strengthened by a few drops of manaca occasionally, which antagonizes the evolution of more amylobacta. To establish promptly an alkaline condition of all the fluids of the body, the uric acid solution is our best remedy; but somewhat tardy, so it is best to administer either bicarbonate of potassa or carbonate of lithia in doses sufficient and in frequence to establish an alkaline condition of the secretions in twenty-four hours; alkaline sponge-baths thrice daily. The trouble we experience is to prevent a recurrence, or re-evolution of the germ. For this purpose, we have found the comp. tinc. of matricaria to be

the best of all remedies, more efficient than all the cinchona alkaloids; decidedly more active than cimicifuga racemosa, or any other cerebral stimulant. Diet, plain, light nutritious; complications are few and far between.

CHRONIC RHEUMATISM may be a sequel of the acute, when inefficiently treated; generally belongs to advanced life. The joints may be painful, tender, stiff. Very little swelling, but a crackling sensation is experienced, as if the joint was destitute of synovia. Patient is extremely susceptible to changes in the weather, cardiac disease and anemia extremely common.

The bacillus amylobacta is present in chronic rheumatism to a limited extent; therefore the wintergreen, manaca and uric acid solvent are of some utility, but the best remedies in this form are the comp. saxifraga and matricaria administered alternately two hours apart.

Bathing morning and night; sponge-bathing, using either alkalies or dilute acetic acid to excite an alkaline secretion, or occasionally iodine to excite an absorbent action, followed in all cases by massage or friction for one or more hours.

Salol, dissolved in ether, applied to very painful joints is often of efficacy; salol, one ounce; menthol, half an ounce; ether, one ounce; ozone ointment, half a pound; mix.

C. p. guaiacol, when locally applied, is a powerful pain reliever, in ointment or in the following: guaiacol, one ounce; terpinol, three ounces; alcohol, four ounces; mix.

The salol and guaiacol completely annihilate the bacillus amylobacta, whenever applied.

One of the essential means of eradication of rheumatic inflammation from the tissues is to neutralize the excess of acidity of the blood. For this purpose, the benzoate of lithia stands pre-eminent. The carbonate of lithia also is a very positive antirheumatic. The benzoate of ammonia has also done good service for me. And if the fever is high I alternate the above remedies with aconite, one drop every two hours until the circulation is controlled. These alkalies should be given until the urine is decidedly alkaline by test. Carbonate of lithia or the benzoate of lithia, in doses of five to ten grains, will soon produce this effect, if given every two hours. This lessens the plasticity of the blood, and prevents exudation taking place in the heart, or in the inflamed structures. As soon as the blood is rendered alkaline, salicylic acid should be given in doses of five to eight grains, every three hours, to sedate the sensory and excitomotor nervous system, and moderate the

temperature, which it will do as an antipyretic. It is one of the most direct remedies to relieve the attack after the acid is neutralized in the blood. It should always be given dissolved in dulc. spts. of nitre, and in alternation to the alkalies, not with them, as they change its chemical character. I have relieved all symptoms of rheumatism, in many cases, in from three to five days with the above treatment. After the disease is relieved, that state of the digestive organs upon which the acid condition of the blood originates must be corrected. Digestion must be improved by the use of hydrastis, nux vomica, or cimicifuga. For as long as fermentation takes place in excess in the stomach, so long the patient will be liable to this disease.

The administration of glycerite of wintergreen and its derivatives, salicylic acid and salicylate of soda, kills the germ, neutralizes its toxin; still its antagonizing power, though great, can be strengthened, made still more active, by alternating either of them with the ozonized uric acid solvent; just as fast as the germs are destroyed by the wintergreen the uric acid solvent washes them from the body. The exhibition of manaca, saxifraga and simabicidia are also of real efficacy when the nerves like the sheath of the sciatic, are involved. The sciatic is rapidly influenced by the following: Compound saxifraga, five ounces; salicylate soda, one-half an ounce. Mix. Dose: One teaspoonful in water, thrice daily.

The direct application of the wintergreen over the germ-smitten joint is of very great utility. The oil is added to ozone ointment and applied over the affected part, covered with an impermeable dressing and bandage. Absorption is rapid, for pain almost instantaneously subsides. If the ointment is firmly compressed over the joint, salicylic acid can be isolated from the patient's urine in fifteen minutes. Treatment of rheumatism by the rectum has yielded with salicylate soda suppository, brilliant results; if tried, wash out the rectum with a copious preliminary enema of tepid water, then follow with the suppository every three hours. It is a superior method to afford instant relief.

All authorities are now agreed on that, and also, that the proper treatment for all cases of acute rheumatism is absolute rest in bed, between blankets and woolen clothing—sponged off with a warm alkaline wash, three times a day; bowels freely opened; and the ozonized glycerite of wintergreen, administered in efficient doses, in alternation with the uric acid

solvent. Absolute rest in bed, no exception to this rule; under the wintergreen, the evolution of germs is arrested, toxins neutralized; it should be given in small doses, at frequent intervals, and its use not dispensed with until there is absolute relief of pain. We claim for this treatment a rapid cure, and a prevention of all cardiac lesions.

Relief of pain, reduction of temperature, an equalizing of the circulation, by complete annihilation of microbic growth, we soothe the heart's action, lighten its burdens, lessen its irritability. The mere difference between standing up and lying down in the recumbent posture is a gain of ten beats per minute, 600 contractions an hour, an excellent mode of mitigating pyrexia.

There can be no doubt that the pathogenic microbe of rheumatism, present in the alimentary canal, in the solids and fluids of the body, in all cases is nothing less than the degenerated living elements of nutrition, brought into being under a depressed nervous system. The bacillus amylobacta is the factor of much trouble, and when once present becomes both contagious and infectious.

The key to all successful treatment is to destroy the germ and restore the integrity of the nervous system, as speedily as possible, before the toxical products of bacterial growth have time to do damage to the red blood-corpuscles.

The bacterial treatment of rheumatism consists in the administration of the ozonized glycerite of wintergreen or its derivatives, in small but often repeated doses, until every evidence of microbic growth is effaced from the body. The action of this remedy must be strengthened either by the administration of comp. matricaria or manaca; by massage and nutrition. If the case seems to resist the ordinary course, the ozonized uric acid solvent can always be administered with advantage.

There is a remedy of intrinsic value, too much neglected by modern physicians, and that is guaiacum. Ozonized fluid extract is the most effective form, it is perfectly innocuous, can be taken any length of time, never loses its effect in killing the germ, and neutralizing the toxin of rheumatism.

Another remarkable action of guaiacum is, it is a powerful prophylactic, that is, it prevents its evolution. The remedy in this form is worthy of the attention of all suffering from rheumatism in any form—even of great efficacy in gout.

Prompt, efficient treatment is always indispensable, for if

there be tardiness the toxins will destroy the red corpuscles. The basic chemical products or bacterial poisons acting on the blood, circulating in it, have a remarkable solvent action on the red corpuscles, producing anemia, with a peculiar pallor of the skin, with a sallow or brownish appearance, and considerable blanching of the mucous membrane.

The remedy here is protonuclein, and natural food. No individual suffering from rheumatism should use any form of proprietary prepared commercial food—banish all such, as they only increase malnutrition, aggravating the condition. Hence all beef extracts or jellies are toxical in rheumatism.

The direct physiological action of guaiacum is an intestinal bactericide, and a promoter of nutrition and assimilation—acting directly on the growth of the bacillus amylobacta, which it retards; at the same time it increases the activity of the glandular system; hastens tissue change; aids in the absorption of organized products of inflammation in joints, and neutralizes the toxins of retrograde tissue metamorphosis before elimination. It is especially serviceable in the subacute and chronic form; it is far-reaching in its effects in establishing a healthy basis.

The toxin of rheumatism is productive of a large percentage of cases of chorea. There is no doubt that cacodylate of sodium has a direct antagonistic action upon this poison, but to obtain a complete neutralization it must be given in large doses which creates gastrointestinal disturbance, which often necessitates a cessation of treatment.

The ozonized concentrated tincture of passiflora incarnata has entirely superseded all other remedies in chorea—acting as well when the cord and reflex centres are damaged by a shock as by the toxin of rheumatism. This remedy must also be administered in large doses, oft repeated, but as it has no toxical effect, this can be readily effected.

NODULAR RHEUMATISM.—A peculiar form of subacute rheumatism occurring most frequently among elderly females in which a few symptoms of rheumatism are present, followed by a species of calcareous exostosis on the tuberosities of the smaller joints, inducing contraction and deformity of the hands and feet, and other parts of the body. As a rule, the hands show the greatest deformity, the exostosis form; muscles contract, spurious ankylosis takes place, and nodules form. The muscles of the hand and arm atrophy; wrist and elbow bent; shoulder rigid. Sometimes the great toe and knee-joint are

affected, hip-joint remaining intact. It is not uncommon to find the vertebræ greatly implicated with nodules.

It is most insidious in its commencement; does not exhibit a very intense rheumatic taint, but the fetor and acidity of the breath are decided; the urine highly acid, with abundance of phosphates, chlorides and urea in abundance; indigestion.

Although there is considerable malnutrition, the appetite is often good; with a slight degree of nervous prostration; blood normal; life seldom menaced.

The victims of this malady are those who lead sedentary lives, in insanitary apartments, and whose employment entails the constant use of the fingers.

In the early stage the pains are fugitive, dull, but localized in the small joints and on the points. As the inflammatory symptoms become aggravated, pain becomes severe, continued, agonizing, especially if there be an effort made to utilize the hand. Attacks are often paroxysmal, and are accompanied by inflammation.

Nodular rheumatism has received but little attention. Although it is often severe, both in the rheumatic and uric acid state, both accumulate, and, in addition to the local difficulty, there are headaches, nervousness, melancholia, peripheral neuritis, and like conditions.

The only treatment which affords beneficial results is the administration of small doses of the uric acid solvent, a remedy of rare value, in which the salts of soda and lithia play an important part. The dose should be such as to keep the liver at active work in eliminating toxins.

For the relief of pain, which is a point of importance, and for a solvent to the calcareous deposit on the joints, the application of the jelly of violets over the painful and swollen parts is a remedy of intrinsic value. It should be applied morning and night. If this is not procurable, apply concentrated ozone in the same manner.

RHEUMATIC GOUT.—While commonly called rheumatic gout, yet this is a most anomalous disease. It has nothing to do with either gout or rheumatism; it is synonymous with chronic rheumatic anthritis—nodosity of the joints—and may be defined as a chronic inflammatory affection of the joints; not unlike gout in a few of its characters, somewhat resembling rheumatism in other points, but differing essentially from both. The affection is a most troublesome one, and not infrequently cripples the individual, whilst, at the same time, it defies all

treatment. Women are supposed to be more subject to it than men, though with respect to this we think it is somewhat doubtful. In addition to the harassing pain in the joints, etc., there are also painful spasms in the muscles of the limbs, great mental depression, general lassitude, indigestion with acidity, rest at night invariably disturbed, every change in the weather felt; at the same time, in consequence of the depressed circulation, the patient suffers much from cold. The duration of the attack is always uncertain; may last for weeks, months, or years. There is a condition of the joints of the hand specially in which every articulation is marked by a white or faintly pink swelling. Both hands are usually bad at the same time, and all the finger joints are implicated.

At one time this was regarded as an appanage of advanced age, but we have found it alike in the young and in the old—in a grandmother and in a damsel barely twenty. It attacks the poor and the rich indiscriminately, the servant and the mistress, the man and the maid. It cripples the mother, and may equally disable the paternal bread-winner; also the doctor and his patient. Sometimes the affection eventuates in absolute deformity. To this disease the name of rheumatic gout has been given, but we think the title is more appropriate to a complaint in which the joints of the feet and ankles are principally involved, and in which there is manifest inflammation, the skin over the affected spot being red and shining.

As regards the treatment, it is altogether very unsatisfactory, a fact which must be considered evident if the different causes which lead to a condition of habit favorable to the development of the disease is taken into account. Much relief invariably may be obtained from the pains in the joints by the free use of concentrated ozone locally, and the ozonized uric acid solvent internally.

RICKETS.—Rachitis, or rickets, is a disease of malnutrition, characterized by peculiar deformities of the bones. It is a disease of childhood.

Symptoms.—Sweating of the head and face, restlessness at night, a peculiar tenderness of the body, emaciation, and debility. The bowels are irregular and the motions offensive. The child is late in teething and in walking. After a time the ends of the long bones become enlarged, most noticeable in the ribs and limbs. The bones get more or less thickened. Deformities now set in; the limbs are curved, the chest deepens

from before backwards (pigeon-breast), the head is large, and its bones do not unite properly.

Complications are common—namely, croup, bronchitis, diarrhea, and convulsions.

Rachitis, a tubercular irritation of the vertebræ and other bones, common in childhood; exhibits great malnutrition. It is doubtful whether baker's bread, in which are incorporated alum, ammonia, gelatin, is not responsible; eaten by the mother, destroys the phosphates in her milk upon which the child is nourished.

Treatment.—The management of a case of rickets requires the nicest tact and care. Bathing the entire body twice daily, massage by warm olive oil with a few drops of guaiacol, followed by sponging very carefully with alcohol and salt. Very careful feeding, juice of raw beef, one raw egg at ten o'clock daily, cream, boiled white fish, oatmeal, an avoidance of all insanitary states.

Medicinally, select two of the following remedies and administer them alternately for ten days; then change to other two. A change of medicine in all chronic affections is essential to prevent the law of habit from intruding. Select from such remedies as matricaria in simple elixir, comp. hypophosphites of lime, soda, iron, protonuclein, c. p. solution spermin, kephalin, oats, mistura guaiacol. All brain and blood builders.

For the bowel irregularity a combination of one grain each of carbonate of soda, zinc, lime, is most excellent.

RIGIDITY OF THE NECK OF THE UTERUS.—True rigidity should imply an undilatable condition of the os—and this is to be understood in a relative and not an absolute sense; where dilatation does not ensue, or occurs with abnormal slowness, or is arrested on account of certain accidental conditions arising at the time of labor, of congenital defects of formation, or acquired physiological, or pathological deviations in the structure of the cervix. In these cases only, the undilatable os is truly rigid, and becomes an efficient cause of delay to labor, and this obstruction may persist, under certain circumstances, so long as to endanger the mother or child, or both together.

Various remedies have been suggested, as the hot hip and douche, the belladonna cerate, powerful antispasmodics in both vagina and rectum; but they are often of very doubtful value. When the difficulty is once discovered, the insertion of two obstetric cones high up in the vagina, the same number well up

in the rectum, and repeated every half hour or hour, have a most magical effect in producing profound relaxation and permitting an easy egress of the child.

Another object obtained by the use of the cones is painless parturition, which is the right of every American woman; still more, with the cones no after-pains, no bacterial infections. Every physicion should use them.

RIGOR MORTIS.—Cadaveric rigidity is due to a chemical process—a process of death, characterized by a coagulation of the myosin, and may be considered the death of the muscles. When the coagulation takes place, the acids, which are being constantly formed, and as continuously removed during life, accumulate in the muscle and gradually effect a solution of the myosin, and then the azotized matters undergo decomposition and develop ammonia, which in its turn dissolves the myosin, and thus occasions the disappearance of the rigor.

In this process, when rapid, great heat is often evolved, especially when the rigor is being established; the rigid muscle slightly diminishes in volume. The disease of which the patient died has an influence on the quick appearance of the rigor, its duration, etc.; so has heat and cold.

Following that the body returns to its natural earths or gases, all except the cadaveric alkaloids, which remain as permanent salts, and are not destroyed even by cremation.

The amount of indestructible cadaveric alkaloids present in an ordinary-sized human being varies from six to eight grains, depending greatly upon the development of his intellectual capacity or powers.

RINGWORM.—Amid the chaos which exists as to what the trichophyton really is, we have a paper from an eminent bacteriologist in which, among other valuable matter, he draws attention to the development of organs of fructification, a fact that supports Bunn's experiments, and finally settles one point strongly urged—namely, that in all the experiments hitherto referred to, what was obtained was at most the germination of conidia, never their fructification. From the character of the fructification, and that the ampullæ may be of the nature of asci, it is possible that some further reason may develop to classify the trichophyton with the ascomycetes. And it is of interest to note that this order includes the fungus which sets up the muscardine disease in silkworms—namely, the *Botrytis*

bassiana and also the *Cordyceps militaris* fungus, which destroys the *Gastropacha pini.*

In summing up these results he explains the anomaly, the difference of the fungus in the skin, and in the hair and its follicle, by stating that "it is a fungus able to vary its form and activity according to the physical and chemical properties of the soil in which it grows; when this soil is solid, and of a nitrogenous composition, nothing more than a thallus or mycelial trichophyton is developed, incapable of growing in cutaneous tissues. When, however, a thin medium, especially one of a saccharine constitution, is selected, we cultivate the fungus into a fine septate thallus, with special organs of fructification, capable of growing, both in human and animal skin. In the epithelium of the skin the fungus only vegetates, but does not develop, propagating itself by swelling, constriction, and finally division of the filaments; but in the hair and its follicle the life of the fungus is perpetuated, probably by a yeast-like division of these spores, formed primitively by the transverse division of the mycelial filaments. This difference in growth doubtless explains better why body ringworm is cured so very rapidly.

Hitherto the failure in the treatment of tinea tonsurans has been due, in the first place, to allowing oxygen too free access to the fungus, acting, in fact, as if we did not know that it is necessary, for a mold fungus to flourish, that it should be abundantly supplied with oxygen, and kept at a temperature below the normal state of the body; secondly, we have not adopted the best means of securing penetration of the remedies employed, and there has been gross neglect in preventing the spread of the disease by using applications which cast a slur on antiseptics; and, lastly, we want a potent germicide which does not set up extensive dermatitis. And in finding such a germicide, it is well to remember the fact, that many microorganisms have two states of existence—an adult form, where the organism is growing rapidly and is very easily killed, and a spore form, which rests and provides for its future existence, being very difficult to kill.

In the cure of this skin affection whatever germicide is selected for its complete destruction, it should ever be borne in mind that it should be used with chloroform, as this is the agent which penetrates most deeply, not only into the hair-follicles, but through the skin itself. Thymol, salicylic acid, ozonized sulphur water, whatever remedy is selected, use it

with chloroform; the fungus will suffer more complete destruction even to the most minute spore, and thus prevent a new propagation. Chrysophanic acid is an excellent parasiticide, soluble in chloroform. Chloroform dissolves the fatty matter of the hair-follicles and skin, which permits of its deep penetration. Seven grains of the acid to one ounce of chloroform. The aim of the treatment is not to irritate, not to produce scabs, but to get the solution to penetrate; so it is best, after the removal of any hairs, to daub it on with a very small sponge, continually dipping it into the chloroform and pressing it into the diseased part, which leaves the yellow acid dry on the spot. Use thrice daily with caution, so that it does not run into the eye.

RUPIA.—An eruption of large, flattish blebs, which is an intensely loaded microbic fluid, at first serous, often bloody, afterwards puriform, later on concretes into crusts or scabs, at the base of which are ulcers of variable depths. Some microbic condition of blood, such as syphilis, or tubercle at its origin. Alteratives and tonics, followed with a prolonged course of cacodylate of sodium.

SALICIN.—A neutral alkaloid obtained from willow bark and also synthetically by a chemical process. It is tonic, stomachic, antipyretic, antineuralgic, and antirheumatic. Dose: 5 to 20 grains.

SALICYLIC ACID AND SODA.—Bactericides; of great efficacy in rheumatism, diarrhea, and other microbial affections. Sterilizes and kills the microbe, the factor of morbid action; so temperature lowers, heart's action slows. The best preparations are those made from the oil of wintergreen.

Dose: Variable, from 5 to 20 grains, either in capsules, or liquor ammonia acetatis.

Locally, the acid is antiseptic and slightly caustic. Dissolved in alcohol, or collodion, it forms a valuable cure for corns and warts. It should be applied by means of a brush.

SALIX NIGRA.—Black willow; bark and buds. Bactericide, tonic, astringent, vitalizing.

Properties.—A sexual sedative, of the highest order. Its administration overcomes all conditions of hyperemia of the ovaries, uterus, prostate, testes; consequently of the greatest possible utility in so-called hysteria, in all forms of diurnal and nocturnal emissions, in spermatorrhea and prostatorrhea.

Preparations and Doses.—Fluid extract, in doses of one-half and one teaspoonful, thrice daily; the glucoside has been made into urethral bougies, which have also proved themselves of great value in spermatorrhea.

SALOL OR SALICYLATE OF PHENOL.—Indicated in all cases of rheumatism; insoluble in water or in the juices of the stomach, it passes the pylorus, undergoes decomposition in the duodenum, where it assumes the compound of salicylic acid and phenol, neutralizes or renders inert the lactic, butyric, and uric acids; its germicidal properties are immense, and it is of very great efficacy in chronic urticaria, in suborbital neuralgia, as an antipyretic, in diabetes, in intestinal catarrh, in typhoid fever, in cholera, against intestinal parasites, in catarrh of the bladder, in ozena, in otorrhea, as a local application in gonorrhea, and as a mouth-wash. It may be designated the great intestinal disinfectant. Its chemical composition is 40 per cent of phenol and 60 per cent of salicylic acid.

SALOPHENE.—It is obtained by treating paranitrophenol with salicylic acid, reducing the nitrophenol by means of zinc and hydrochloric acid into an amid, and acting upon this with acetic acid. Salophene contains about 50 per cent of salicylic acid, and exists in the form of thin scales, tasteless, inodorous, and with a neutral reaction. It is almost insoluble in cold water, and only slightly so when warmed. Upon the addition, however, of an alkali it readily dissolves. It is very soluble in alcohol and ether. It burns with a smoky flame, leaving no residue. In the stomach salophene breaks up into salicylic acid and acetyl paraamidophenol. These substances are excreted by the kidneys, and can be found in the urine. Salophene, owing to the presence of amidophenol, is less poisonous than salol. According to Guttmann, it is a valuable remedy in articular rheumatism, given in doses of from four to six drams a day in pill, or in the form of compressed tablets.

SALT.—Chloride of sodium, a constituent of the body, and a necessary article of diet, and an exceedingly valuable medicament. In shock, collapse, if diffusible stimulants are not handy, salt and water will often revive them. In hemorrhage, six parts of chloride of sodium to 1,000 parts of sterilized water, promptly injected into the venous system, will wash up the stranded corpuscles and give the heart something to con-

tract upon. It is a normal stimulus, enables the circulation to be carried on and the oxygenation of the red blood-cells to proceed. It works rapidly, and the change produced is little short of marvelous.

The emergency method of dissolving one teaspoonful of common salt in a pint of hot water gives one in 873, for all practical purposes; this is near enough for any one suffering from collapse. This saline solution can be injected into the cellular tissue, under the mammary gland, groin, axilla, and freely in the rectum. This makes an admirable lotion in tubercular ophthalmia; weak and tired eyes are much refreshed by using it even as a wash.

A gargle of salt and water is efficacious in tonsillitis and sore throat, hardens the gums, whitens the teeth, cleans the tongue, sweetens the breath. Many public speakers and noted singers use a wash of salt and water before and after using the voice, as it strengthens the larynx.

Dyspepsia and headache are often relieved by a cup of hot water in which a small teaspoonful of salt has been dissolved.

Salt incorporated with alcohol makes an efficacious liniment for weak joints, with massage.

For bathing purposes, bay salt, coarse salt obtained by the evaporation of sea-water, is best.

SAMBUCUS.—Elder; a bactericide. Decoction of the flowers completely sterilizes the streptococcus of erysipelas; simmered in lard, makes an invaluable, antiseptic ointment for healing old ulcers, especially rectal; the juice of the berries sterilizes the amylobacta of rheumatism; the inner bark in infusion is of great efficacy in rheumatism.

SANGUINARIA.—The rhizome of *Sanguinaria canadensis,* or blood-root, grows most luxuriant in all parts of the United States, being one of the earliest, if not the most beautiful, of spring flowers. It contains various alkaloids.

Therapeutic Uses.—Of utility in coughs, colds, catarrh. It has acquired quite a reputation in the destruction of the microbe of croup in the form of an acetic syrup.

It affords good results in atonic dyspepsia, with catarrh of stomach and bowels.

Preparations and Doses.—The fluid extract, from 5- to 10-drop doses.

SANGUINARIN.—A valuable, stimulating expectorant and antiseptic; small doses frequently repeated are best.

Dose: One-eighth to one-twelfth—one-sixth to one-fourth of a grain, every four hours.

SANITARY SCIENCE.—Sanitary science can do much to prevent many contagious diseases which now depopulate the country, and that this is so there can be no doubt, for we have only to look at the old pestilences of the Black Plague, the Sweating Sickness, and other terrible diseases which have entirely disappeared owing to improved systems of living. Smallpox, yellow fever, malaria, cholera, scarlet fever, and diphtheria, all formidable enemies of our race, should also be made to disappear. It will take time, effort, and money, but what is time and what is money if not to be devoted to wise uses? It is a question with some whether this should be done by the government, or by individual effort and co-operation of the people of any community. We believe it should be done by all these means, but as far as possible by individual effort and community effort. Even the country town, with one or two thousand population, should have its health society to keep alive the feeling in this matter and act when necessary.

SANTONIN.—Destroys worms (lumbricoides); is a tonic of rare value. The action of air and light destroys its properties, renders it yellow; so see to it that it is in white, colorless crystals. In small doses it has a peculiar vibrating action upon the nerves of organic life and those of nutrition, increases the appetite; under its use patient gains flesh; it stimulates the ovaries, and is an emmenagogue and a microbicide.

Dose: One grain dissolved in warm water for worms; as a tonic, one-quarter or half a grain, form of a lozenge, every other night, followed by comp. syr. rhubarb and potassa following morning.

SARCINÆ VENTRICULI.—A pathogenic microbe, an evolution in relaxed or devitalized mucous membrane of the stomach, found in groups or squares of 4, 8, 16 or 24; either the cause of gastric catarrh, which see.

SARCINAE INTESTINALIS.—Cocci, or packets, in groups of four, or eight, very small size, but very regular in form, occur only in the intestines in cases of chronic diarrhea, and catarrh of the bowels.

Virginia stone crop is unquestionably the best remedy we possess; salol, naphthalin, resorcin, creolin, come next in order; mineral acids are of some utility.

SARCINAE URINAE.—Extremely small cocci, united into families of eight to sixty-four, present in the bladder in vesicular catarrh.

Sterilized by either boroglycerid, or uric acid solvent; the insertion of a papoid bougie into the bladder, and permitting it to dissolve, speedily kills the entire brood.

SARCINAE UTERI.—Cocci very small, but forming large packets, common in intrauterine catarrh. It is sterilized by the administration of the wine of aletris, and the insertion of papoid or salix nigra bouge into the uterus, general tonics and alteratives.

SAW PALMETTO (*Sabal Serrulata*).—A species of palm, a native of maritime parts of the United States, which grows as far north as latitude 35 degrees, which is farther north than any palm is found. It attains a height of from forty to fifty feet, and has a crown of large palmetted leaves, the blade from one foot to five feet in length and breadth, and the footstalks long; the flowers are small, greenish and in long racemes; the fruit or berries are black, about as long as a pea-pod, and uneatable. The leaves are made into hats. The terminal bud, or cabbage, is eaten. The wood of the trunk and branches is extremely porous, but is much preferred to any other kind of wood for wharves, as it is extremely durable, not liable to decay in water, or to be attacked by worms or other insects.

The uses of the saw palmetto are very various—the wood for wharves, leaves for hats, the bud or cabbage for food by the lower grades of humanity, and the berries with wonderful success in medicine. These berries contain properties of great power, which act upon certain parts of the human organism.

The fluid extract of this invaluable berry is a nutrient tonic, far in advance of the comp. hypophosphites, almost equal to the tincture of oats, but has a special action upon the glands of the reproductive organs, as the mammæ, ovaries, prostate, testes, etc. Its action is that of a great vitalizer, tending to increase their activity, to promote their secreting faculty, and add greatly to their size.

It is specially indicated in all cases of wasting of the testes, such as follows varicocele, or is induced by masturbation, or which is often present in sexual impotency.

In atrophy of the prostate, so very common in cases of sexual perversion, this drug operates in a most remarkable manner, in overcoming the withered, blighted state of the

gland; so in uterine atrophy dependent upon ovarian blight its action is unexcelled. In gynecological practice it is much used to promote the growth of the mammæ.

But it is on the prostate gland that this remedy exercises its best effects. Great medical authority states, that when "the hair becomes gray and scanty . . . . the prostate gland becomes increased in size," and this, irrespective of age. Nine men out of every ten have enlarged prostate, and one atrophy, ages varying from 35 to 75, respectively, the result either of early indiscretion, as masturbation or excess, or perversion of the sexual act, or sedentary habits, or from improperly cured gonorrhea.

The prostate is composed of two lobes and a median portion. Sometimes one portion or all may be enlarged—the part affected influences the function of micturition, whether it be wasted or enlarged. A patient may have enlargement as great as a small cocoa-nut and no obstruction to micturition, provided the median portion is only but slightly enlarged.

A man with prostatic trouble has always impaired sexual power, verging on partial or complete impotency, with wasting testes; with urinary trouble, either a frequency, or a dribbling, a lack of power of propulsion. The dribbling or lack of power of retention is altogether different from stricture, for in the latter the power is good, strong; although it may be as fine as a thread, or split, or twisted like a cork-screw.

Prostatic disease, acting reflexly on the brain, gives rise to innumerable cerebral affections. Here is a quotation from an orthodox text-book on the medical treatment of enlarged prostate: "There is nothing to be done for it; you cannot diminish or increase the size of the prostate by any known means." The use of the saw palmetto, in both enlarged and atrophied prostate, completely invalidates the above statement.

Did our space permit, we could cite case after case, in both morbid conditions, in which the saw palmetto was used, in which the size of the prostate was equalized, the difficulty of micturition was relieved, the stoppage, dribbling, lack of force, completely overcome, and the improvement in sexual power steady and most gratifying. A perfect rejuvenation follows the use of the palmetto; the general nervous system becomes balanced and reinvigorated.

Besides, the cocain suppository is a wonderful aid, and, if need, rectal and urethral bougies, composed of papoid, trypsin, could be used.

THE SAW-PALMETTO SUPPOSITORY.—The action of the ozonized extract of the saw palmetto is well defined in all cases of hypertrophy and atrophy of the prostate gland, a nutrient tonic to the damaged sexual organs. The active principle of these berries is a resinoid, which, when introduced into a suppository and inserted thrice daily, acts well in elderly men in restoring lost virile power. Its action as a supository is immense—superb—for it is most efficacious in promoting a renewal of life in chronic cystitis, urethritis and all irritable conditions of the urinary tract.

It is a standard preparation, a vitalizing tonic to the reproductive organs, a genuine rebuilder.

SAXIFRAGA.—An herbaceous, perennial plant.

Therapeutic Uses.—A bactericide of the first order. When administered, it kills the bacillus of cancer, syphilis, and tuberculæ. The compound syrup composed of saxifraga, blue flag, tag alder, bitter-sweet, corydalis, poke root, and aromatics. Each fluidram contains 5 grains of iodide of potass and 5 grains of chlorate of carbon, subjected for a week to twelve atmospheres of ozone gas. Is generally used in doses of 1 teaspoonful, three times a day.

SCABIES.—A contagious, troublesome skin disease, attended with great itching, which is increased by warmth. Commences as a papular, vesicular, or pustular eruption; vesicles or pustules ruptured by scratching, causing excoriation; generally met with on the finer portions of skin, as the inside of the fingers or abdomen. The cause is the *Acarus scabiei,* a microscopical animal parasite, which infests the human body. The female is much larger than the male, and, after impregnation, she burrows herself beneath the skin, and forms a furrow or ditch, in which she lays her eggs. The males have itinerant habits, and wander about the surface of the skin. In bad cases, the entire body may be covered.

Treatment.—Usually bathing, drying off well, then smearing the body with either oil of bergamot or benzin. Repeat every other day, and change bed clothes with body clothing.

SCARLET FEVER.—One of the eruptive fevers, caused by the presence of a micrococcus in the blood spread by contagion and infection, by the transfer of living particles from the skin, mucous membrane of the mouth, nose, throat, and

from urine and feces. The susceptibility to the ingress of the micro-organism diminishes as age advances. It is highly contagious and infectious, has a definite period of incubation, fever and decline. During these stages it is very easily recognized by the sore throat, prostration, loss of appetite, headache and backache, and the stage of incubation six days; then rigors, symptoms intensified, fever; the tongue at first furred or coated, then becomes raw or strawberry-looking; the throat red, inflamed and in bad cases ulcerated.

The rash usually appears on the second day of the fever, and is red, diffused, smooth, silky to the feel, and remains four days and then disappears, and a general peeling of the entire skin in which the micrococci are lodged, and most abundant, takes place and continues from three to five weeks.

For plainness of description it is customary to describe it under three forms: simple, anginosa and malignant. In the latter the eruption is livid, tongue black, glands of the throat often suppurate, feeble vital force, prostration. In very mild cases, with strong vital force, eruption may never appear, termed latent.

The gravest complications are ulceration of the throat and desquamative nephritis. The latter may occur in mild cases. Whenever the eruption fades, the skin peels if there be strength left.

The best microbicide to administer in all cases of scarlet fever is a solution of chlorine, and the only other remedies to soothe the damaged kidneys are passiflora incarnata and tincture of gelsemium.

If these remedies are properly administered there is no indication for the use of such remedies as aconite, belladonna, digitalis.

Chlorine, passiflora, gelsemium cover the field entirely.

Another special and important precaution is bathing morning and night up until the eruption appears, then anointing with ozone ointment, to which a few drops of the oil of eucalyptus is added, and this to be continued during the process of desquamation. The instant of its recognition isolate the patient in an airy, well-ventilated room, with no carpets and as little furniture as possible. Every soiled article should at once be thoroughly disinfected by the use of formalin, one tablespoonful to the quart of water. Nothing should be taken from the patient's room in a dry state, they should be placed in a formalin solution at once.

When the peeling of the skin has entirely ceased the patient should have a warm bath, dressed in new clothing, and the room disinfected. Isolation from three to five weeks is justifiable in all cases.

It has been recently demonstrated that the microbe of scarlet fever attacks all domestic animals, and that it is often communicated through the milk of cows. This micrococci has a special affinity for all animal bodies, which take up this germ with avidity, being most minute, so subtle that it can float in the air and adhere to particles of matter, carrying those microbes which are thrown off from dried mucus, from the nostrils or mouth, or perspiration, urine or feces. All these secretions are germ carriers, and no doubt sewer air, drinking water, soil emanations, play their part in preserving the germ and scattering it.

The micrococcus of scarlet fever is best antagonized by the administration of grain doses of resorcin in solution as often as the attending physician deems prudent.

This treatment effaces the toxin in the blood, and thus prevents suppuration of the glands of the throat, pleurisy, endocarditis and pericarditis, progressive paralysis, muscular wasting, dropsy, with or without albumin, cirrhus of the liver, peritonitis, etc.

Just as soon as the resorcin ameliorates fever, follow it with protonuclein, to increase the number of leukocytes, to protect the tissues against further inroads.

Protonuclein always does good, as it retards the growth of all microbes.

SCIATICA.—This differs from all other forms of neuralgia, in the fact of its etiology being a true neurosis, brought about by agencies that cause exhaustion, such as muscular exertion, traumatism, exposure, which act as depressants, while the toxin of the bacillus amylobacta gives rise to irritation, effusion of plastic lymph, which produces thickening of the sheath of the nerve and compression.

It is a common malady among men at the middle period of life.

Sciatica generally begins with an attack of lumbago, usually preceded by prodromal manifestations, but sometimes it begins suddenly, with full severity, the pain becoming sharp, paroxysmal, intolerable in its intensity, excruciatingly severe.

In the cure of such cases the condition of the alimentary

canal deserves grave consideration. No beer, no amylaceous food, no article liable to fermentation, should be given. The uric acid solvent and from three to six tablets of siegesbeckie should be administered daily, dissolved in water. The comp. syrup saxifraga is an invaluable remedy in every case of sciatica, as it excites absorption of the effused lymph. Over the entire length of the sciatic nerve, from its emanation from the lumbar portion of the cord to the popliteal space, apply the acupuncturator daily, immediately following its application with the jelly of violets, over which the rubber adhesive plaster, bandaging the limb and applying a posterior splint; this is the modern method, the most effectual in procuring absorption of effused lymph and instantaneous relief of pain.

Another method of quick relief is to place the patient upon ozonized tincture apocynum. Saturating a sponge with the bisulphide of carbon, make two or three passes along the course of the nerve. The first sensation is extreme coldness, followed by burning heat, but relief is instantaneous.

SCLEROSIS.—The classical symptoms of ataxia are characteristic: the gait, defective vision, scanning speech, loss of the knee-jerk, weakness and rigidity of muscles, incipient paralysis, brain and nervous degeneration.

The toxin of the bacillus of syphilis lies at the root, and properly at the etiology of all cases of a growth of connective tissue, either in brain or spinal cord; the toxin is selective and attacks weakened organs or parts.

The toxin of either hereditary or acquired syphilis is the direct cause of a very large precentage of paralysis and mental infirmity. No syphilis, no paralysis.

Locomotor ataxia is becoming so common, is so insidious in its development and so intractable to cure, it is well to consider its nature and causation from every possible point of view.

The latest researches appear to indicate that the essential lesion is located in the brain—the optic thalamus—and that it is of an atrophic or degenerative nature. Hitherto, it has been considered a purely spinal disease, but it now seems probable that, starting in the optic thalamus, the process extends to the spinal marrow and thence to the surface of body through the spinal nerves.

Brain diseases are not easily recognized in their incipiency. Comparatively few physicians are well informed concerning

the physiology and function of the mental organ. Departures from mental health are often ascribed to eccentricity, depravity, idiosyncrasy, etc., when they are really the result of brain disease.

So, maladies starting in a central brain-lesion are not met by a correct diagnosis until they have progressed far enough to seriously involve the body and make it difficult to determine which is cause and which effect.

Mind is the creator, quickener and preserver of the body, and the brain is its organ. Trouble in the brain will surely reflect itself in the body. We are familiar with the effects of bodily ill-health on the mind, but the effect of mental and brain disease on the body is just as great. The central origin of disease is not sufficiently appreciated.

Locomotor ataxia is, in the start, a disorder of sensibility. The function of the optic thalamus is to receive objective sense impressions. General sensibility includes both sensory and intuitive perceptions. In the subjects of locomotor ataxia, the normal balance between sensory and imaginative perceptions is lost. Dreams, visions, hallucinations are common. Fancy is heightened. They have exalted ideas and conceptions. Sometimes, they are abnormally brilliant; at others are lethargic.

Taking this view of locomotor ataxia—that it is a disorder of sensibility, seated in the optic thalamus, spreading to the corpora striata, and through it affecting the gait and other movements—the treatment is plain.

The palsy of sensation, the atrophy or degeneration of nerve tissue in the optic thalamus, can be held in check by the same means which develop and keep the sensorium healthy—by use. Employ the skin—which is a great sense organ—as a medium to convey a variety of sensations to the sensatory tract; electric baths; massage; air and sun baths: preparations of phosphorous, spermin, glycerophosphate of soda, ozonized phytolacca berry juice, so as to arrest the degenerative changes induced by the toxin of syphilis.

The dose of the remedy, given thrice daily, just enough to maintain the hepatic secretion in activity, five to fifteen drops, added to water.

Other authorities on ataxia state that besides the toxin of syphilis, alcoholic poisoning, sexual excesses give rise to sclerosis or a growth of connective tissue; that, as a rule, irritation of the posterior columns of the spinal cord takes place first,

then spreading to nerve trunks and motor columns, thus gradually involving the entire nervous system.

They also have found phytolacca berry juice a stay to the progressive inroads of a toxin, that its action is much aided by the application of a large guaiacol plaster over the lumbar portion of the cord.

Also that pine-tree baths daily—that is, a warm alkaline bath—to which is added four ounces of the ozonized pine distillate, affords great relief, especially if followed by massage; that this bath maintains an active cutaneous circulation, overcomes inertia of the bowels, the sluggish lethargy of the glands of the body.

Others appreciate greatly the use of saxifraga as an altera-

SCROFULA.—A term used in medicine during the past century to designate a deposit of the tubercle bacillus in the lymphatic and other glands. The name is now obsolete, being used only by medical pretenders, and ignorant practitioners of medicine.

It is now discarded. Tubercle effused in the lymphatic system necessarily gives rise to a lack of functional activity in the process of digestion and assimilation, with retarded elimination of waste products.

Tubercular deposits, whether they be in gland, joints, cutaneous surface, each and all give evidence of deficient vitality; an inability to maintain healthy activity.

The true principles of practice, to be effective, are identical with tuberculosis.

SCROTAL HYPERTROPHY.—We often meet with acute edema of the scrotum in badly managed cases of gonorrhea and syphilis. True, such a complication is often present in some cases of cardiac and renal disease, and it is well to see that none of these exists. A correct recognition of it is indispensable, as the appearance of the scrotum in all, enlarged, glistening, translucent. A complete absence of heart and kidney disease, in such cases, is most suggestive.

Solid edema, hypertrophy of the scrotum (elephantiasis) is quite of a different character. It is rarely seen on our continent, but common in all tropical countries. A disease due to the presence of the tubercular germ in the skin—an outgrowth of cutaneous tissues with tubercle infiltration. When this affection appears the skin increases in thickness from the germ

and effused lymph, becomes coarse and furrowed, and in the furrow cracks and fissures form, which give rise to offensive ulceration.

The prepuce or foreskin is generally affected at the same time as the skin of the scrotum, so that the penis is quite buried. The testicles are found in their normal position, but there is usually a slight hydrocele. The hypertrophy goes on to an enormous extent. A similar affection often attacks the feet and legs.

Ransack the entire materia medica, there is no remedy that seems to arrest the progress of this malady but the periodate aurum internally and locally, in the latter incorporated in ozone ointment.

SCURVY.—An abnormal condition of the blood, essentially due to the poisoning by ptomains of tainted animal food—to the bacteria of putrefaction, which gives rise to anemia and uses up the alkaline constituents of the blood. Anemia is the effect of the struggle of the organism against infection; it is the initial lesion.

Generally caused by a sameness of diet, mode of life and want of vegetables and fruit.

Its diagnosis is the history of the case, debility, hemorrhages from nose and mouth, also extravasation into the skin, albumin in the urine; spongy or ulcerated state of gum, the teeth drop out, breath has a peculiar fetor; skin livid or purple in spots. Serous effusion into the brain, chest, abdomen and cellular effusion.

Truly, lime-juice and fresh vegetables are regarded as specifics, but our best remedies are rest in the recumbent posture, daily alkaline sponging, flannel clothing, pure air, sunlight if possible; push chlorate potassa in five-grain doses; mineral acids and cinchona, ozone water, coca wine, avena, kephalin, etc. Abundance of ripe fruit and vegetables, juice of meat, eggs, game, acidulated drinks to excite the alkaline secretions.

SCUTELLARIA.—Commonly known as skullcap, grows over the United States.

Therapeutic Uses.—It is a nervine of the first class. It can be administered, dose after dose, until a quasi-paralysis of both motor and sensient nerves is produced—a state of nerve-rest without death, during which vital recuperation of the nervous system takes place. It is, therefore, an invaluable remedy in

the nerve storm of epilepsy and chorea; in the coagulated brain of chronic alcoholism; in motor paralysis; insanity.

Preparations and Doses.—A decoction of 2 ounces of the herb to 8 ounces of water; fluid extract, 1 to 2 drams; administered frequently so as to almost completely suspend nerve-circulation.

SEA AIR.—Considerable speculation has from time to time been made as to what causes the invigorating and tonic properties of a sea-breeze. Ozone is very commonly accepted as at any rate an important factor in this connection, since it is invariably present in air that has been in contact with sea-water, and especially agitated sea-water, and to a smaller extent in the air of the country, but it rarely occurs in the air of towns and crowded places. Ozone, however—and with it probably traces of hydrogen peroxide—is undoubtedly formed by air skimming over the surface of fresh water, and hence the breezes coming over the large lakes and rivers become ozonized and bracing. The true native American or genuine Yankee has an instinctive fondness for procuring his change or spending his holiday down by the water side, be it sea, lake, or river, probably because he finds, though he does not know exactly why, that the air of water-side places does him more good than the air of the country, where there are trees and beauties of landscape but no large tract of water. The freshness of the early morning air is due most probably to the formation of dew on the previous night, the transition from the vaporous to the liquid state causing ozonization of the air with which the condensed watery particles come into intimate contact. This freshness disappears as the day wears on because of the readiness with which ozone is destroyed by organized and organic substances. The exhilarating effect of a sea-breeze may, however, be ascribed to other bodies which are foreign to inland air. Thus sea air contains a tracable amount of salt and iodides, attaining a maximum of 0.022 dram per litre, or about one and a half grains per gallon. These mineral ingredients derived from the sea doubtless accentuate the tonic action of sea air, and, further, it is probable that ozone interacting with chlorides and iodides would lead to traces of chlorine and iodine being present. Many persons describe the smell of strong sea air as iodous or chlorous, and it has even been said that the starch used in face-powders turns blue at the seaside on account of the iodine in the air forming blue iodide of starch. If that be so the blue

and haggard appearance characteristic of many faces exposed to a strongly salt-impregnated breeze would find an interesting, but perhaps embarrassing, explanation.

SEA, OR MOTION SICKNESS.—The brain, the heart, the cerebrospinal, great sympathetic nervous system have been referred to as the seat of this distressing disorder. No doubt all are implicated and unable to discharge their special function; besides, it constitutes the disturbance of a special sense, whose function is to determine the posture of man, to govern and direct the mechanism by which the body is maintained in an erect posture and in equilibrium.

This special sense is highly developed in the Caucasian. This faculty of equilibrium is located in the brain; optic lobes; the nervo-vital fluid or bed-plate of the cerebrum and cerebellum, upon which the brain rests. The motion, undulatory, either backward, forward, downward, or oscillating, an element of irregularity and uncertainty.

It is customary to classify it under one or other of three forms, nausea and vomiting being a leading feature in all.

1. *The endolymph,* flowing freely in the semicircular canals of the inner ear, is subject to all the laws which govern fluids: inertia, gravitation, friction. It flows in a straight, horizontal current; follows the motion of the head; the plane of the canals corresponds to the direction of the motion, and the endolymph continues to flow on until it is arrested by friction, which is transmitted to the sensorium; insubordination and giddiness are the result. The fluid in the canals is agitated, rocked, washed about; the finer nerve filaments are irritated and abused; repeated a number of times, nausea and vomiting follow.

The disturbance of the cerebrospinal nervous system, together with the vascular and muscular systems, is the necessary result of the effect produced by the motion of the vessel upon the semilunar ganglia and the viscera they endow with organic nerve force.

2. *Visceral vomiting,* due to mechanical disturbance of the viscera, contusion of the contents of the abdomen, produced by the heaving of the ship. Here, again, we are compelled to go back to the brain, as the entire viscera are covered by the great sympathetic; the disturbance is transmitted to the centre and retching and vomiting supervene, followed by more or less reaction, according to the constitutional powers of the sufferer.

3. *A mechanical disturbance* of the stomach from the motion gives rise to a feeling of uncertainty, dizziness, nausea, vomiting, accompanied by much prostration, great paleness, gone-feeling; visual vertigo depending upon exhaustion of the optic mechanism. Mental and physical prostration are powerful. Still, in this form we must look to the semilunar and allied ganglia.

In the recumbent position, in the centre of the vessel, head to the bow, feet to the stern, nature has made provision for the equilibrium of the body. In that position the nervo-vital fluid leaves the base of the brain and flows into the spinal canals.

A reversion of the movement in the semicircular canals is the cause of the trouble. For this irritation of the nerve centres, produced by the ceaseless motion of the ship, quinine, nitrite of amyl, nitroglycerin, coca et celerina, bromhydric acid and other remedies have been tried, but all fail. An ozonized extract of passiflora incarnata is a remedy which rectifies and equalizes the lymph flowing in the semicircular canals and acts as a preventive to seasickness. It is a concentrated extract, highly ozonized, and a great vitalizer; it is a good remedy, does the work every time, and has a tremendous sale in all seaports. All physicians and travelers say there is nothing like it.

SECRETION.—The term is applied to that process by which part of the blood is separated from the circulating organs. The manner in which secretion is effected is perfectly unknown.

The secretions are divided into exhalations, follicular secretions, and glandular secretions.

Of the Secretion and Excretion of the Tears.—The tears are secreted from the lachrymal gland, from whence they are conveyed by six or seven excretory canals to the upper and outer part of the eye, where they pass through the conjunctiva, and are carried by a triangular canal, formed in the edges of the tarsi, to the inner canthus of the eye, where they are absorbed by the puncta lachrymalia, and conveyed by two tubes to the lachrymal sac. From the lachrymal sac the tears pass by the nasal duct into the inferior meatus of the nose.

Use of the Tears.—The tears keep the cornea moist, prevent the friction of the eyelids on the eyes, and wash away any extraneous bodies which may have fallen into the eye.

Secretion of Milk.—The milk is secreted in the glandular

substance of the mammæ. The tubuli lactiferi arise in numerous small portions of the gland, called granules. As they approach the nipple, the ducts unite into twelve or fifteen of considerable size, which terminate on the surface of the nipple by open mouths. The milk is for the purpose of nourishing the infant.

SECRETION OF SALIVA.—The saliva is secreted by the parotid, submaxilliary, and sublingual glands, and conveyed by their ducts into the mouth. Its use seems to be to assist the mastication and deglutition of the food, and its digestion in the stomach.

SECRETION OF GASTRIC JUICE.—The gastric juice, a fluid somewhat analogous to saliva, is supposed to be secreted partly by the extreme arteries of the villous coat of the stomach and partly by the glands. It dissolves those substances which are nutritious to the animal.

SECRETION OF THE PANCREATIC JUICE.—The pancreatic juice is secreted in the acini of the pancreas, and conveyed by numerous small ducts into the great pancreatic duct, which opens along with the biliary duct in the duodenum. It is supposed to assist in chylification, by diluting the acrimony of the bile.

SECRETION OF BILE.—The bile is secreted in the liver by the minute branches of the vena portæ into the acini or penicilli; from thence it passes through the excretory ducts, called the pori bilarii, into the hepatic duct; this, with the cystic duct, forms the ductus communis choledochus, which terminates in the duodenum. It is said by some that the blood of the vena portæ, having more carbon and hydrogen than that of the hepatic artery, is more proper for furnishing the elements of the bile.

EXCRETION OF BILE.—When digestion is not going on, the opening of the ductus choledochus is closed by the contraction of the duodenum; and the bile not therefore finding access into it, regurgitates into the gall-bladder, where it acquires greater consistence. When the duodenum is distended with chyme, the irritation it produces is propagated to the gall-bladder, the parietes of which contract and force the bile along the cystic duct into the ductus communis choledochus, and from thence into the duodenum.

USE OF THE BILE.—The bile precipitates the feces from the chyle, and excites the peristaltic motion of the intestines.

SECRETION OF URINE.—The urine is secreted by the minute

branches of the renal artery into the tubuli uriniferi, then through the papillæ or mammary processes into the calices or infundibula. These uniting, form three or four principal tubes, which terminate in the pelvis of the kidney. The pelvis contracting forms the ureter, which carries it to the bladder.

The oblique manner in which the ureters penetrate the bladder prevents the urine from returning; the inner membrane of the bladder lying over the opening, produces the effect of a valve.

EXCRETION OF URINE.—As soon as there is a certain quantity of urine in the bladder, we feel an inclination to discharge it. This we effect partly by the contraction of the bladder itself, and partly by the action of the abdominal muscles and diaphragm, which press the intestines against the bladder.

SEMINAL INFERTILITY.—Motion is an essential element of life. In healthy semen, the spermatozoa move with great activity. The products of inflammatory action are highly deleterious to all living matter with which it comes in contact; hence effusions of serum, mucopurulent secretions, highly acid, are injurious to the spermatozoa, either partially or completely paralyzing them, and they either move sluggishly or not at all, even when examined, under the microscope, when freshly ejaculated.

It is therefore an invariable rule in all inflammatory conditions of the genitalia and accessories, urethra, seminal ducts, prostate, spinal cord and brain motionless spermatozoa are found. Indeed, this rule can be extended to all morbid conditions of the organs enumerated—under all motionless spermatozoa, which are unfruitful. Whether the motionless spermatozoa, which discharged into the female genital tract in coitus, ever regain their mobility, that is resuscitate, is a problem still unsolved.

What we do know is that in many unfruitful marriages the spermatozoa are motionless. The cause of the sterility is this abnormal condition of the semen, some motionless, some living, furnish a condition of not absolute sterility. Poisons and the toxins of disease germs, each have a special definite action upon the spermatozoa; alcohol gives us the type of idiocy, groveling manners; the toxin of syphilis, gonorrhea, leprosy, typhoid, cancer, etc., each act injuriously in the production of motionless spermatozoa; so do some drugs, like bromide of potassa

and coal-tar derivatives; mechanical injuries, blows on the back and head, are extremely hurtful. Probably of all agencies in production none are so destructive to the spermatozoa as coitus with harlots.

We have made a series of microscopic observations upon vigorous, healthy men. Coitus, after weeks of abstention from the act, is not accompanied by the ejaculation of seminal fluid teeming, as has been said, with abundant and lively spermatozoa, but that, on the contrary, they are comparatively rare. Many show no manifestation of life, and others are by no means active. Repeated coitus is followed by an abundance of young, very active spermatozoa.

Observations on the fluid of seminal emissions, though often made within an hour after the event, rarely showed many spermatozoa, and the few present were, as a rule, not especially active. Spermatozoa seem to degenerate while in the seminal vesicles, and it is only after these are emptied that really active germinal particles are to be found in the seminal fluid. The importance of this for certain forms of sterility is evident. This theory, too, gives a new biological significance to nocturnal emissions that occur normally in the continent. Nature is getting rid of germinal material that is no longer in proper condition to fulfill its function perfectly, not merely wasting, as has been taught, precious reproductive elements.

Motionless spermatozoa are, then, an evidence of infertility; subsequently they are deprived of their vitalizing actions upon the nerves, which give rise to erections; giving rise to sexual lethargy.

In the treatment of such cases, the removal of causes is essential, getting rid of all morbid conditions incidental to the reproductive organs, to neutralize the toxins of all disease germs, then select two of the best remedies for the restoration of lost virility, and push for ten days and change, substituting another two; thyroid extract, protonuclein, kephalin, avena sativa, c. p. solution of spermin, comp. matricaria.

Each case must be treated according to its etiology—difficult often to determine the cause—often mixed up with other conditions; for instance, comp. matricaria alternated with c. p. solution of spermin are general tonics and restoratives to the genital system; they exercise a direct rejuvenating influence over the glands of the sexual apparatus, an exhausted testis promptly responds to their administration. The utility of daily bathing, the use of the flesh brush with massage; their

vitalizing action, the brain centres. Activity in the spermatozoa is augmented by a diet rich in phosphorus, and the two remedies, kephalin and avena sativa. Ordinary preparations of both damiana and saw palmetto are worthless, but take the ozonized, then you have a remedy of worth, of real merit. It possesses all the special properties of damiana in the most convenient form; its alterative effects on the alimentary canal and tonic action upon the brain and nervous system generally. In the numerous forms of neurasthenia it has been highly successful, as it soothes the stomach, invigorates the nervous system, and relieves the exhaustion. Ambrosia orientalis, another sexual invigorating remedy.

Muira puama is a true cerebrospinal stimulant, the only remedy that has a direct energizing action upon the nerves that supply the erectile muscles.

Every means of improving the general health aid in the evolution of an active, vital spermatozoa, a testicular secretion from the brain-semen, one-half of which is destined for cerebral nutrition; its loss, its inactivity, produces serious intellectual defects, mental alienation.

SEMINAL VESICLES.—The vesiculæ seminales are two membranous receptacles, situated one on each side, beneath the base of the bladder, between it and the rectum. Their length is usually about two inches, and their greatest breadth from four to six lines; but they vary both in size and shape in different individuals. Their posterior extremities are separated widely from each other, but anteriorly they converge so as to approach the two vasa deferentia, which run forward to the prostate between them. With the vasa deferentia thus interposed, they occupy the two diverging sides of the triangular portion of the base of the bladder, which lies upon the rectum, and is bounded behind by the line of reflection of the rectovesical fold of the peritoneum. The seminal vesicles themselves rest upon the rectum, but are separated from it by a layer of the rectovesical fascia which attaches them to the base of the bladder. Their posterior ends lie beneath the openings of the ureters.

The common seminal or ejaculatory ducts, two in number, are formed on each side by the junction of the narrowed extremities of the corresponding vas deferens and vesicula seminalis, close to the base of the prostate. From this point they pass side by side through the prostate between its middle and

lateral lobes. After a course of nearly an inch they end in the floor of the prostatic portion of the urethra by two valve-like slits placed in the verumontanum, one on each prominent margin of the opening of the prostatic sinus.

Seminal vesiculitis is usually secondary to mischief in the urethra. It is a common accompaniment of gonorrheal epididymitis, and originates in a precisely similar manner. When the inflammatory process has crept from the urethra along the common ejaculatory duct to its termination, it is as likely to proceed along the short seminal tube to the vesicle as along the twenty-four-inch vas, deferens to the epididymis. I believe it commonly extends along both these structures.

I have seen the vesicles inflame secondarily to urethritis, set up by the passage of a bougie, by the presence of a stricture, by masturbation after coitus with a leukorrheal woman, and by the elongated front of a bicycle saddle. I have seen both vesicles suppurate in one case where their inflammation appeared to be primary; at least there was no antecedent cause discoverable in the urethra.

When acute inflammation attacks a vesicle it gives rise to a swelling at the side of the base of the bladder, the greater part of which is due rather to effusion of inflammatory products into the perivesicular connective tissue than into the cavity of the vesicle itself, just as we see that in epididymitis the bulk of the enlargement depends upon inflammatory infiltration into the connective tissue between the tubules of the epididymis.

Seminal vesiculitis, like acute epididymitis, most frequently terminates in resolution. It sometimes ends, however, in suppuration, and, when this occurs, pus may make its way laterally into the ischiorectal fossa, or may diffuse itself deeply around the rectum (constituting one of the varieties of perirectal suppuration), or may discharge itself by the ejaculatory duct, or may open either into the bladder or rectum, but never into both cavities together.

Some cases pursue a chronic course, distend the cavity of the vesicle, cause permanent choking of the ejaculatory duct, giving rise to a cystic swelling behind and beneath the bladder and blighting the spermatozoa.

The symptoms of vesicular disease are essentially those of vesical irritability, resemble prostatis, consist in uneasiness about the perineum, painful defecation, frequent painful micturition or retention, nocturnal emissions, persistent moisture or weeping penis, with some priapism. All the symptoms are

easily explained: The distended vesicle produces a degree of pressure upon the back of the bladder in the neighborhood of the trigone, and this gives the frequent desire to urinate. Pain or uneasiness increases as the bladder fills: nocturnal emissions, undue erections are always present, owing to the irritation or hyperemia produced by the distended vesicle, and reflected irritation to the deep urethra and its connections.

Prolonged or ill-treated gonorrhea, masturbation, perversion of the sexual act, bicycle riding, etc., are frequent common originators of this malady, which is affecting a very large proportion of our male population.

Modern therapeutics, which rests upon a scientific basis, has crystallized a treatment of infinite value, one in which specific results are obtained.

All cases are benefited by a general alterative and tonic course, with attention to the secretions, to clothing, bathing and diet.

Specially, the green root tincture of gelsemium, in doses ranging from 5 to 50 drops, thrice daily, is a genital sedative of the highest order; alternated with the ozonized extract of black willow in doses from half to one teaspoonful, as frequent, acts as a true sedative, astringent, and vitalizer of the ejaculatory ducts, and the entire reproductive area.

From among the entire materia medica these two remedies are the only ones which will allay all irritation of the seminal vesicles. They are strengthening and sedative to the genital tract—check all leakages and emissions, control all inflammatory action.

Their activity can be still further increased, the deep-seated urethra entirely rejuvenated by the introduction nightly of a salix nigra suppository and bougie; or the suppository used during the day and a cocain used at bedtime.

An exceedingly common form of inflammation, met with in either the acute, subacute or chronic form, predisposed to by the tubercular diathesis. The common causes are bicycle riding, gonorrhea, masturbation, sexual excesses.

At the present time, nearly all physicians have numerous cases under treatment.

In any of the three forms, there are marked disturbance of the sexual functions, either a diminution of sexual desire, or it may have disappeared altogether. In a small minority the desire is increased. In some, erections are almost absent, while in others they are persistent. The act of ejaculation is very

precipitate, or it may be tardy and accompanied by much pain, and followed by pain in the perineal region. Seminal emissions are also frequent. The amount of fluid ejected is small and the spermatozoa are lifeless and reduced in numbers.

When inflammation of the seminal vesicles originates from a gonorrhea, there is likely to be pus, often in a considerable amount, and even traces of blood, which give rise to a greenish coloration, owing to the oxidation of the hemoglobin. A considerable amount is characteristic of a severe case. Functional derangements of micturition are invariably present; besides, there is pain in evacuation of the bowels; pain at the neck of the bladder; pain in the epididymis, and in the vesicle itself when the bladder is distended.

In order to make a correct diagnosis, the seminal vesicles must be examined per rectum when the bladder is full, one finger being introduced through the anus, while with the other hand pressure is applied to the hypogastric region. By this means the lower half of the vesicle can be felt. If diseased, it will be distended and tender to the touch, especially in the acute cases. By pressing on the vesicle and drawing the finger along it some of its contents can be pushed into the urethra, and on urination they can be collected and examined.

In treating these cases, rest in the recumbent position, enemata of a solution of ozonized boroglycerid, as hot as can be borne, at least thrice daily; each enema, when passed, should be followed by the introduction of a boroglycerid suppository per rectum; at bedtime a cocain suppository should be used. Internally, large doses of the green root tincture of gelsemium should be administered, alternated with full doses of the black-willow extract.

The testicles should be supported by a suspensory, and frequently bathed with the ozonized distillation of witch-hazel. If there be much discharge from the urethra, no injections should be used, but rigid cleanliness observed. If the case is carefully guarded, there will be no danger of perineal abscess.

Care must be taken to prevent hemorrhage, or setting up again active inflammation. In the large majority of cases these simple remedies will effect a cure, but old habits which give it origin must be, together with sexual intercourse, avoided.

When all active inflammatory symptoms have completely subsided, a very generous diet, considerable rest, and a course of treatment with ferratin and c. p. solution of spermin, in-

culcated and persevered with for some months to overcome the neurasthenia which is invariably the result of inflammation of the seminal vesicles.

Seminal Weakness.—The most common derangement of the sexual organs in man is a weeping penis. This may be simply a little moisture or a leakage, or an emission of seminal products, or a discharge of inflammatory products. Urethral discharges may be due to micro-organisms, as in gonorrhea, or those developed in the vagina of rank women; to stricture, to prostatic catarrh, to irritation of the seminal vesicles, the result of masturbation, or other irritation. The urethral discharge cannot exist over ten days without the appearance of spermatozoa. They are most abundant in what is termed spermatorrhea, seminal emissions occurring either by day or night.

The ozonized extract of black willow is a sedative, tonic and astringent to the seminal vesicles, ejaculatory ducts, veins and arteries—a true anesthetic, which, if administered under the watching care of an honest physician, will stop all emissions; but to make it more certain, more effective, a suppository made of the glucoside of salix nigra should be used every night on retiring, and occasionally a bougie of the same.

This treatment, if properly carried out, never fails to stop the emissions, but we must bear in mind that there is an element of debility in all those cases, which requires a very careful tonic course.

If the action of the black willow lessens peristaltic action, a small piece of kola-nut paste should be taken every evening.

In all forms of urethritis, whether it be due to an injury, or masturbation, or bicycle riding, or to congress with courtesans, or to gonorrhea, so called, in every case, if permitted to progress, the gonococcus will appear, and treatment with germicides becomes imperative; the ozonized thallin bougie, when used, wipes out every disease germ from the urethra; in addition injections after urinating, with the ozonized distillation of eucalyptus internally, the mistura llaretta and ozonized extract of kava-kava pills speedily clears the urethra of all disease germs.

Incidental to the devitalizing condition present in all urethral leakages, due to masturbation, bicycle riding, and coitus with lewd women of the brothel type, a weak, relaxed, tortuous, knotty condition of the veins is often present on the left and more rarely on the right side. Varicocele is indigenous to

genital debility and seriously interferes, when it exists, with the nutrition of the testes, is productive of profound impotency. Most cases are amenable to treatment with our newer remedies. Our ozonized, specially distilled witch-hazel for a local application, with rest, suspensory and improved nutrition.

Matricaria as a tonic before meals, ambrosia orientalis two hours after eating, with three-grain protonuclein tablet at suitable intervals during the day. Suppositories of ambrosia and damiana have been successfully used.

Impotency, an inability to consummate the sexual act, is a prevailing malady, one which is greatly on the increase and which is growing. We would simply suggest to our readers, that, after all causes that admit of removal be got rid of, a careful scrutiny of the following list of our newer remedies can be selected for the purpose of rejuvenating the sexual organs.

For a tonic, as a builder of wrecked sexual power, comp. ozonized matricaria before meals is good, to follow this remedy three hours later on with tincture ambrosia orientalis, with a damiana suppository at bedtime, still better.

Muira puama is only of utility in cases with deficient erectile power.

Protonuclein, of the greatest efficacy where the vital elements of cell growth are deficient. It is valuable in any case, acts still more energetically in alternation with ambrosia orientalis.

Some cases are much benefited by the occasional administration of the ozonized thyroid extract. The phosphoric elements of the brain as found in glycerite of kephalin and ozonized tincture of oats. Bicycle exercise, not only productive of heart and prostatic disease, is producing a failure of brain power throughout the nation deplorable to enumerate—the termination of all this is in profound impotency.

SENECIO GRACILIS.—Life-root; especially useful in defective uterine function, arising from a vitiated state of the system.

The fluid extract, in doses of from 30 to 60 drops, is our best preparation.

Pastil or suppository prepared from the glucoside, excellent in all forms of genital debility.

SENILITY.—Old age, senile failure, is to be sought for in the circulation, in non-nutrition of the brain and nervous system; in the incapacity of the heart; in rigidity and narrowing

of the blood-vessels, a shrinkage, either through atheromatous, fatty or calcareous degeneration; a loss of vitality, in which the finer vessels of the brain become obliterated, the typical fissures of thought lessened in depth—the elasticity of the nerve cells, both in the cortex and in the basal ganglia, suffer greatly —the same occurs in the minute vessels of the heart, stomach, pink marrow and other organs.

Characteristic changes in senility are atrophy of brain and other vital organs, the heart through the sympathetic, then the function of digestion and reproduction.

The most common causes that lead to early senility are venereal excesses in early life, to vascular degeneration, to overnutrition, inactivity of mind and body, too much sleep, not infrequently alcoholic excesses and immoderate use of tobacco, an engrossing and monotonous occupation. Physical and mental degeneracy are aided by a sluggish cerebral circulation; there is more of an opportunity to stasis and obstruction.

Loss of sexual power is generally present in senility; as it is purely of a cerebral origin, the diminution or loss of sensibility in the glans penis depends much on the changes that have taken place.

Extreme longevity can be acquired by a simple mode of life, without either mental or physical inactivities or excesses. The power of vitality lessens with age; some modifications of everyday life may be necessary, but any sudden interruption of them would be disastrous.

The only remedies which the physician can prescribe and which are beneficial are a hopeful disposition, prolonged daily massage; kephalin granules, protonuclein, tonics and simple nutritious food.

SEXUAL DEBILITY.—This is the most common of all maladies among men in North America, due in most cases either to masturbation or sexual excesses; or an ill-treated gonorrhea, or more recently to bicycle exercise.

In every case, owing to the want of tone and contractility, there is a leakage of seminal products, and a defect in the erectile power.

In the present advanced state of medical science, no man need suffer from such a condition, for very nearly every case can be cured; if placed under the care of a good, honest, Christian physician; not some medical upstart humbug, quack or charlatan, that grow up like mushrooms, and who stultify themselves by their dishonesty.

A reliable medical adviser will arrest all leakages, even a mere moisture at the orifice, by administering the ozonized extract of black-willow bark thrice daily, by the insertion of a suppository of the glucoside of salix nigra every night, and every other day a soluble urethral bougie of the same; at the same time strengthening, toning and fortifying the physical and nervous system, nerves and brain by administering the ambrosia orientalis.

These remedies are curative, given with indomitable perseverance and tact, adding occasionally passiflora or gelsemium, if irritation be present.

It is no experiment, it is a perfect restoration of mental, physical and sexual vigor, and is within reach of all.

It is an erroneous idea of some physicians to recommend marriage as a genuine cure for seminal weakness—it never does. The weak, exhausted, exsanguinated, nerveless, helpless wrecks are unfit for such a union. Such marriages bear fruit in infidelity, abandonment, suicide, insanity, crime, prostitution.

Once all leakages are completely wiped out, then prescribe either thyroid extract of protonuclein, with c. p. solution of spermin, with comp. matricaria to vitalize the sexual nerves, ducts, vesicles, testes, so as to secure the elaboration of fertile semen, which will produce strong, healthy, vigorous offspring.

Still, we often meet with cases in which the sexual sense or appetite may be impaired or obliterated; erectile power lost; the spermatic fluid so weakened, so degenerated, that its procreative power is gone. Even then our faith in protonuclein, thyroid extract, ambrosia orientalis, muira puama is strong in bringing about a restoration of power.

Leakages, emissions, impotency, usually go together; still many impotent men have no visible leakage, nothing but an inability to respond, erectile muscles being paralyzed, nervous ganglia blunted, exhausted.

The trouble is these symptoms set in early in life, and can only be remedied by the above means.

In sexual debility and impotence, there is likely to be irritation, congestion, enlargement of the prostate gland, and this requires attention; besides the tone of his nervous system is lowered. He needs a good, strong, special, general, sexual tonic, as ambrosia and matricaria comp. Invariably a rapid improvement follows their administration. They reduce prostatic congestion, and effect some very remarkable results.

Sexual debility cannot exist without wasting or atrophy of the organs. They are associated together, and when a patient responds to ambrosia, a redevelopment soon takes place. Physicians who have never prescribed ambrosia can scarcely realize its power, as it builds right up and restores sexual strength and vigor.

Irritation, congestion, inflammation of the prostate is a complication of sexual debility; every man who has either committed masturbation, or has had a gonorrhea, or has had congress with a harlot, or with a woman incompatible, has it—the seminal ducts pass through its body, congestion means leakage—the bladder becomes irritable, sexual power declines as the gland enlarges and takes on induration; it presses upon and deprives or paralyzes the sexual nerves, causes impotency. For an internal remedy, ambrosia orientalis stands first; for a local remedy, to rob the gland of its swelling, its hardness, its inflammation, a suppository of boroglycerid, followed by one made of ichthyol, once, twice, or even thrice daily. They soothe, anesthetize, retone, strengthen, revitalize sexual nerves; strengthen the erectile and ejaculatory muscles.

SEXUAL DEBILITY.—This term is often used, and its import is simply a condition of debility in the entire generative organs, usually, but necessarily, there is spermatorrhea, an oozing away of semen, or an oozing of a ropy, viscid fluid from the tubular glands of the prostate, after micturition, or defecation, or a diurnal weeping or nocturnal involuntary discharges; and mingled with all there is usually spermatozoa.

The most common form is due to a relaxed state of the prostate and testes, usually the result either of masturbation, excesses, or gonorrhea.

In seminal weakness there is usually either a discharge or an exudation, leakage, moisture, and in it can be detected spermatozoa, small, atrophied. Unperceived, this exudation may keep running along several weeks, months, years, without the individual being even aware of it. Large quantities are often ejected if the bowels are constipated, as tenacious as the white of an egg.

In whatever way seminal weakness be produced, whether by a fever or masturbation, or by excesses or abuse in early life, its effects are most disastrous, for early, even at thirty or forty years of age, if such a condition be not cured, the semen of those so afflicted becomes destitute of spermatozoa, poverty

struck, and what we do find instead, in the so-called seminal discharge, dwarfed, dead, or infertile germs, with nearly all spermatic crystals; the presence of these crystals in the discharge denotes a weak, exhausted brain and spinal cord, nervous bankruptcy; diminished spermatozoa or their entire absence, degenerative changes, unproductive semen, decrepitude.

Spermin is a remedy of great power in such cases, aided by other tonics to promote its absorption; once absorbed, it will cause the spermatic crystals to disappear, which are speedily superseded by a luxuriant crop of active, fertilizing spermatozoa, and the debility is removed.

Sexual debility is either caused by, dependent on, or associated with seminal emissions, either nocturnal or diurnal, in urine or at stool.

Spermatorrhea, then, from whatever cause, must be wiped out before sexual debility can be completely overcome. For this purpose we possess some valuable medicaments.

Green root tincture of gelsemium, combined with equal parts of the ozonized tincture of passiflora, administered in from fifteen- to thirty-drop doses before retiring to bed, exercise a sedative influence on the nerves of the reproductive organs. Continue for some time.

Administer during the day the ozonized extract of black willow, and at bedtime insert a suppository made from the glucoside of the same. The remedy is remarkable for its tonic, anesthetic action on the sexual organs of both sexes. Probably the best remedy to control leakages, losses or emissions. The action of these remedies are permanent, not evanescent, and can be relied on.

Use only the ozonized preparations, as they are germicides. They cause a quiescent condition of generative power—act on the blood elements and on the seminal cells, as they do on inferior organisms.

The spermatozoids become perfectly latent for the time being, can no longer effect their migration.

After these leakages have been thus completely arrested, a complete change in treatment is essential.

Then prescribe comp. tincture matricaria before, with either c. p. solution of spermin, or tincture ambrosia orientalis after meals; with occasionally kephalin, avena sativa and thyroid extract.

Such a procedure is a sure cure for sexual debility.

SEXUAL IMPOTENCY.—Impotence is a morbid condi-

tion in either sex, that prevents the spermatozoa of the male from coming in contact with the female ovule; in other words, it is an inability to consummate the sexual act. Sterility is a condition in which neither spermatozoa nor ovules are secreted or elaborated; or, if evolved, their vitality is immediately destroyed, or possess no fertilizing power whatever—a perfect want of power to fecundate.

The act of copulation in man may be rendered inoperative by a variety of causes; such as by an absence of the penis; or a want of growth or development, or malformation, or mutilation of the organ. The dorsal or upper aspect of the penis is covered with branches of sympathetic nerve, and its erectile power may be influenced by moral influences, as emotions, desires, affections, passions; these may be simply overexcited, or violent, or dormant; the man may have lost his confidence, through fear, or modesty, or anxiety, or great love, or even disgust, and find it impossible to get an erection, the organ remaining flabby, like an old rag. It is to be naturally expected that diseases, as in fevers, blood diseases, and general debility from any cause, would render the sexual organs feeble for some time. Injuries about the back of the head, blows, falls and jars of childhood, as well as the concussions, shocks of more mature life, as railroad accidents—which are a great factor in its production; heat of sun on back of head; those are the most stubborn, as sexual desire is located and semen secreted in the brain. Again, injuries and diseases of the spinal cord will abrogate the power to copulate, though the desire remains and semen may be secreted. Abuse of the sexual organs by masturbation, and by what is vulgarly known as tasting, destroys every vestige of erectile power. If persisted in, the function may be forever lost. Congress with loose, lax, very large women, or those affected with leukorrhea, or excessive sexual intercourse, will in time impair and remove the power of erection. Excessive obesity, large scrotal hernia, hydrocele, locomotor ataxia, and other diseases will also prevent coition. Drugs, and the reckless abuse of some remedies, have a most deleterious effect on the sexual function. The excessive use of tobacco, which impairs digestion, weakens the nervous system, relaxes and whittles down the muscular tissue, renders a man feeble in procreative power, and ultimately saps his very vitals. Opium eating, or smoking, or morphine and chloral using, dries up the very springs of life, prevents the elaboration of semen in the brain, and paralyzes the nerves that

supply the erectile fibres. The long-continued use of digitalis in cardiac affections tells most disastrously on the penis, in causing impotency as well as sterility. The long use of bromide of potassium on brain, spinal cord and testicle, is equal to castration.

The most hopeless cases of impotency are those in which the brain and spinal cord have been damaged, from shock, concussion, the toxin of disease germs, sclerosis of the cord (ataxia), some chronic organic disease of the cord, thickening, mutilation; these are not common, and, as a rule, cannot be rectified.

As a rule, there should be a general treatment in all cases, which should embrace daily bathing, with the use of the shower bath, friction, massage, hips daily; bowels to be kept regular; sleep on right side, and its duration extended to eight or nine hours out of the twenty-four; moderate exercise, no mental work, no care, no worry or excitement. The use of tea, coffee, whisky, together with tobacco, must be rigidly forbidden.

The use of brain food should be insisted on, such as oatmeal, broiled white fish, corn bread, eggs, oysters, beef, mutton, poultry, game; aid digestion, if necessary, with pepsin or papoid and matricaria.

An alterative and tonic course can always be followed with advantage; as it has a tendency to improve the general health; besides stimulating applications to the spine are most beneficial in the form of plasters, friction, shampooing, electricity.

Men with a largely developed or weak great sympathetic often suffer from passive or imaginative impotency; fear they have an inability; disgust with their partner; perfect incompatibility in some cases, and it is in those very cases the administration of passiflora and matricaria work magnificently.

As to special remedies for the cure of real genuine impotency, a physician can select from the following a few remedies of genuine, intrinsic value:

Comp. tincture matricaria for all-around tonic, in every case of sexual impotency, is unexcelled in its action. It stimulates a rousing appetite, braces up the reproductive centre, the brain and the cord.

The ambrosia orientalis, either in tincture, pill, tablet or suppository, is a powerful sexual vitalizer, a cerebrospinal stimulant, prompt and powerful in its action.

Muira puama and damiana, tincture, bougie and suppository, are often of much value, especially muira puama, administered

in small doses for a length of time. Its sole property seems to be to augment the strength of the erectile fibres; if its action is well supported by oats and kephalin, it has much merit as a vitalizing remedy. As regards damiana, the article must be good; even then it has a feeble action. It is a drug much depreciated by the manner in which ignorant charlatans have manipulated it.

The animal extracts are of immense utility in aiding a cure of hopeless impotency. Either protonuclein or thyroid extract should be administered in every case, in alternation, week about; they favor evolution and growth of spermatozoa by their producing leukocytosis; in other words, they are the active principle of life.

In alternation with one or other of these two, either c. p. solution of spermin or glycerite of kephalin, or tincture of Scotch oats.

These remedies are true builders of vital elements when once introduced into the alimentary canal; they are bound to generate, and augment sexual vigor. They produce a higher type of manhood, rejuvenate, revitalize the sexual centres in the brain and spinal cord. For the present age and its general characteristics these are the remedies for more power, more strength.

The kephalin granules are a most elegant form, suitable for those unable to take liquid preparations.

The brain of the modern Caucasian, in our present state of civilization, with its ceaseless activities and perpetual strain, cannot be kept in a normal state upon our ordinary food; its nutrition will become impaired, nay, literally starved.

The great mass of our population, all mental workers, require more vitalized brain food; they require it as an indispensable necessity for work, and as a prophylactic against disease.

A deficiency of phosphates in our food is the initial step to cerebral starvation, a condition in which all our senses and faculties suffer; but none becomes so thoroughly bankrupt as the sexual sense—that which presides over the evolution of the spermatozoa. With a starved brain, cerebral anemia from any causes, the evolution of the spermatozoa goes on sluggishly, feebly; they become diminished, dwarfed, misshapen. How different it is when the brain is adequately nourished and vital force vigorous, whether by brain food, or by that great vital constructor, ozonized glycerite of kephalin; the spermatozoa take on excessive development, become more numerous and extremely active.

In such states of vital force, then, the spermatozoa take on excessive development, increased activity. These have undoubtedly great influence in the production of a higher type of manhood, superabundant stimulation and growth.

The venereal appetite in man is by no means uniform, intense in some, feeble or entirely wanting or absent in others. Indulgence may foster ideas, celibacy may extinguish it. The etiology of impotency in a very large proportion of cases may be referred to the nervous system—the great sympathetic chiefly, with its emotions, desires, affections, passions, as we see in personal antipathy, which invariably leads to sexual frigidity; the wear and tear of life, keen competition in the daily avocation repress it, as well as all depressing passions. Some cases must be referred to spermatorrhea, prostatic hypertrophy, congestion of the deep urethra, the toxins of disease germs. All, according to rigid pathology, may be embraced under a general head of sexual neurasthenia.

If the cause can be ascertained, which is often difficult, treatment must be made accordingly. In nearly all diseases the efforts of nature are to cure, but here every step is toward its disintegration; consequently the treatment should be active, cautious, scientific, aided by newer remedies and the great discoveries in physiological science for which the present age is distinguished. Fortunately for humanity, the progress of medical science the last thirty years has been immense and cures are now effected which were once deemed impossible.

In all cases of impotency, no matter what the original cause has been, the prostate gland is usually congested, enlarged, irritable, and needs the use of a saw-palmetto suppository several times daily. The tone of the entire nervous system is lowered, and a good, strong, special general and sexual tonic is demanded, which we have in the ozonized glycerite of kephalin and in the granules—a remedy which invariably effects rapid improvement; a remedy which strengthens the whole genital fabric, especially the erectile muscles, invigorates the sexual nerve ganglia, soothes and vitalizes the prostate. Most remarkable cases of impotency and its cure, restoration to full sexual vigor, might be recorded if space permitted.

Impotency when chronic is usually accompanied with wasting of the organs and the whole body.

What can be done to-day in sexual, seminal and urinary diseases was impossible thirty years ago, but by unremitting labors in medical science, and newer remedies, and a few months' time,

broken-down humanity, perfect wrecks, can be fully and perfectly restored to sexual strength and vigor; so that the afflicted, after many trials, failures to find the proper cure, can now find in c. p. solution of spermin, not exactly infallible, but one which has effected wonderful results in very hopeless cases. Certain it is that this remedy, used by all the American and by very many British savants, and indorsed by the leading physicians of both countries, must be curative in its effects. Universal indorsement and success attend the administration of this one remedy.

Many young men at thirty, nearly all men at fifty, are compelled to get up during the night to urinate. This and the tardiness to start the stream are due to an enlarged prostate—a progressive indication of failing sexual power. Enlargement of the prostate deprives the sexual nerves of their power, paralyzes, causing total impotency. The insertion of a boroglycerid, followed by the ichthyol suppository, will in time remove this enlargement, rob the gland of its inflammation, absorb the lymph effused in it, retone, strengthen and revitalize the sexual nerves, promote a renewal of life in the erectile and ejaculatory muscles. Persevere with these and a perfect restoration to health is secured.

An excellent internal remedy in these cases is comp. tincture of matricaria.

Debility caused by disease, by the abuse of tobacco, opium, chloral, alcohol, by blows on the head or back, may give rise to impotency, in which a cure may be difficult. Even the sexual decay of old age is often overcome by the use of the kephalin granules. As a rule we are sexually powerless at too early an age.

Most men are or have been indiscreet, and console themselves by asserting they never had emissions, never committed masturbation, never resorted to sexual perversion, never read a sexually devitalizing book, but they have, and it is in advanced life it begins to tell; then they feel the effects of their latent vices.

These cases should be placed for six months upon ambrosia orientalis, in alternation with avena sativa; if not radically cured, will be much improved.

SEXUAL PARALYSIS.—The last thirty years has brought to the notice of the profession a peculiar condition of the sexual organs (confined to men about twenty-five up to forty and up-

wards); it might be termed apathy, but in reality it is impotency of a special type, a loss of power and sensibility, with no deterioration of the general health.

It might, with propriety, be termed a sexual blight. Such cases neither threaten life nor reason, still they are often stubborn to treat.

Usually, there may be some symptoms of indigestion, and a slight debility after continued exertion. For this I have found the matricaria invaluable given before meals.

In elderly cases I have, however, found it necessary to add muira puama to strengthen the erectile tissue, and impart a full restoration of the sensitive nerve cells.

Before the introduction of these remedies I found it difficult to cure sexual apathy.

If, in these cases, a secret weakness is detected, which is draining away the vital fluid, even if it be but a moisture sufficient to undermine the health and strength, it will in time induce softening of the brain, apoplexy or paraylsis.

Loss of this kind must at once be checked by the administration of the ozonized extract of the black-willow bark; by salix nigra suppository and bougie. These remedies can be depended on; reliable for their efficacy.

Sexual paralysis, which is the loss and decay of erectile power and sensibility, is an advanced stage of impotency, although it may come from either masturbation or congress with harlots, injuries to the head and spinal cord, or to enlarged prostate pressing upon the sexual nerves, admits of a cure in the hands of a progressive physician with those newer remedies.

Masturbation in early life depreciates all the elements of manhood; it checks physical growth and is highly detrimental to the evolution and growth of the mental faculties; the act deteriorates their secretion, the semen, rendering it infertile, incapable either of evolution or production of growth.

A drained-out nervous system, a starved brain from this very fact is characterized by indistinctiveness of vision, dilated pupil; diminution in the sensitiveness of the auditory apparatus; feebleness or loss of voice; mental preoccupation; hebetude of mind; confusion of ideas and profound melancholia, with a suicidal tendency; such are the effects of masturbation, and with it sexual impotency.

Impotence is a condition of the sexual organs in which a man is unable to beget his species; he may have either lost his erectile power through masturbation, or all desire, or his vital

fluid may be so weakened, so degenerated as to have lost his procreative power.

A highly developed nervous organization, which is the characteristic of the modern American, succumbs to things abnormal more readily than one in the intellectual torpor of barbarism. Thus, either an ill-treated gonorrhea, or frequent coitus with women wholly incompatible, very soon brings about a failure of sexual power, an inability to respond when called upon.

The trouble in all these cases lies in the erectile muscles, which are either weakened or paralyzed in the nervous bulbs or ganglia, which are usually either blunted or exhausted.

Impotency has many complications; the most common being spermatorrhea, disease of the bladder and prostate, with wasting of the testes, cerebral wreckage.

In the cure of all cases of sexual impotency, whether the patient be twenty-five or seventy-five years of age, all known causes and complications should, if possible, be removed. Spermatorrhea is more readily and positively cured, either by the administration of ozonized black-willow bark or the oil of thuja orally, and by bougie and suppository; all irritation of the genito-urinary organs can be held in complete control by the careful administration of the green root tincture of gelsemium; if there be bladder trouble, enlarged prostate, the ozonized uric acid solvent internally, together with the judicious use of the ichthyol and boroglycerid suppositories, if properly manipulated, are essentially curative. Probably the most hopeless complication is varicocele, and even with that time, patience and good remedies an improvement may be effected. Usually one side only is affected, hence better hopes of a cure.

SIEGESBECKIE, TINCTURE.—Local; paint on as indicated. Stimulant; parasiticide; useful in ringworm. The folfowing formula is generally used: Fluid extract siegesbeckie, 1 ounce; salicylic acid, 30 grains. Mix. Apply with a brush. Equal parts of the same fluid extract and glycerin. Shaken up well, rubbed in over any patch of tinea, at once kills plant, spores and broods. Internally, it has acquired quite a reputation in destroying the bacillus of typhoid fever and other microbes. It has a wide sphere of action, both locally and internally, as a bactericide. It acts as a microbicide in aphthæ, gangrene, bed-sores.

One dram of the tincture to 2 drams of syrup forms a power-

ful alterative. Equal parts of this syrup of siegesbeckie and fluid extract of hydrocotyle form the transcendental alterative of the ancients. Dram doses, thrice daily.

The tincture, added to water, is administered in chorea, stammering, and other nervous diseases, in doses of from 5 to 10 drops, which is an ordinary dose in all cases.

This glucoside in five-grain tablets, either dissolved in the mouth or water, is of inestimable value in all maladies in which a disease germ is the factor; they can be administered in typhoid fever and erysipelas.

An ointment of the glucoside beat up in ozone ointment, valuable in microbic cutaneous affections; as a dressing to open cancers and ulcers.

SIGHT.—Although the Caucasian was the last of the races created, he is the most perfect in Divine mechanism—his brain the richest in cineritious matter and in convolutions of thought. Although he possesses this superiority and is the only civilizing race—the race that possesses the attributes of invention and progress in sciences and arts, still, withal, his senses are far inferior to woman's, and to other lower, inferior and distinct races. The senses of smell, hearing and seeing are more acute and powerful in the Negro, Indo-American, Mongolian, etc., than in the white race.

Vision, or sight, is performed by the brain through a perfect optical apparatus, the eye, by or through which the brain looks at the exterior world. There are variations in vision. In order to arrive at a proper conclusion as to a deviation, a normal standard must first be laid down.

SIMABICIDIA.—This compound is composed of equal parts of the fluid extract of cedron seed, coto bark, Jamaica dogwood, manaca, tonga and black cohosh, highly ozonized.

This combination has proved to be of very great service in all forms of neuralgia, especially in cerebral, angina pectoris, intercostal, and in rheumatic and syphilitic pain.

Simabicidia is most efficacious in the alleviation of all pain dependent on a deficiency of life in nerve tissue—all pain that passes by the name of neuralgia. It does this by promoting a renewal of life in that tissue; at the same time it annihilates all disease germs in the blood, and thus affords nutrition by purer and better blood. The remedy thoroughly purifies and invigorates. While using it, nourishing food and proper hygiene must not be neglected.

SKIN DISEASES.—In a cursory glance at cutaneous diseases the best method of diagnosis is to take them as so many effects of inflammation dependent upon either microbes in the blood or skin.

Erythema, or redness, is a rash in the form of red, irregular patches, generally diffused, or nearly continuous; although generally due to malassimilation and bacteria, it is not contagious; in some cases there is great prostration, rigors, fever, the rash (bacteria) appearing on any part of the body and giving rise to a sense of burning, tingling, and in bad cases pain.

Roseola.—Scarlet rash; a rose-colored efflorescence, occurring in various forms. Usually begins on the face or extremities in the form of red pimples or points, which spread and form rings, which may or may not coalesce. Itching, tingling, often fever. Dependent upon malassimilation (bacteria).

Urticaria, or nettle rash, hard, rounded, or oval elevations of the skin, sometimes pale, in other cases red; non-contagious; with or without fever. Due to the bacteria present in malnutrition, associated with nerve disorder, or catamenial irregularity. Usually there is itching, tingling, burning; wheals often vanishing from one part and reappearing elsewhere; sometimes chronic.

General Measures.—Emetic, warm alkaline bath daily; open bowels with salines; aconite and belladonna for fever, glycerite ozone; nitric acid in cinchona. Lotions warm, bicarbonate potass to eruption, covered with oiled silk, or lime-water, diluted.

Diet.—Plain, nourishing, avoidance of salt meat and shellfish.

Vesicles, Blebs.—Herpes, or tetter, is a general term applied to vesicular eruptions on the skin with burning pain, itching, tingling, followed by scabs; and finally red spots, with or without fever, lasting weeks or months or years, all forms being extremely contagious, as the bacteria and other germs are let loose in the serum or effusion.

Herpes Labialis is a form that occurs on the lips, mouth, fauces, tongue; it is usually associated with cold, malnutrition, disease germs in blood. There are found in those vesicles, bacteria; oidium albicans; germs of syphilis and the bacilli tubercle.

Herpes Preputialis, when it occurs on the prepuce, or on head of penis, small vesicles, isolated or in clusters. Dependent on a perversion of sexual congress, pre-eminently contagious and infectious.

Remedies.—Saxifraga, phytolacca, belladonna, glycerite ozone. In tetter of the prepuce, as fast as a vesicle appears puncture it with a fine needle, then press a sponge on it saturated with peroxide of hydrogen; then keep lotions of lime-water or boroglycerid applied all the time.

General Measures.—In all forms of tetter keep applied lotions of antiseptics. Boroglycerid is one of the most elegant.

HERPES ZOSTER, or shingles, clusters of vesicles in an irregular band, or patches on hands and body.

ECZEMA.—Dermolia is the best dressing, with cacodylate of sodium internally.

PEMPHIGUS.—When nerve force is terribly shattered; when the brain has lost its cohesion; blood literally eaten up by disease germs, especially those of syphilis, rabies, bacilli of tubercle, etc., we meet with an eruption of large blebs or blisters, ranging in size from a small marble to that of an egg. These blebs or blisters contain a yellowish fluid in which millions of bacteria and other disease germs literally swarm.

In acute pemphigus, fever, great prostration, there is much redness prior to and after the effusion has taken place in and around the blebs.

In the chronic form there is no fever, but the eruption is preceded by a sense of pricking and smarting. Both forms dry up and terminate in

RUPIA.—Flat, distinct bullæ, containing serous, purulent or dark sanious fluid followed by thick scabs or ulcers, appear often on the lower extremities, loins or nates and other parts of the body.

Rupia is the same size as the pemphigus which preceded it; where blood is badly damaged, loaded with disease germs, in some of the bullæ, they eat, burrow deep, give rise to very fetid discharge, with pain, sleeplessness.

Treat same as for syphilis, alternating saxifraga with cacodylate of sodium; antiseptic lotions of boroglycerid; peroxide of hydrogen; lime-water; tincture iodine. Greasy, oleaginous remedies not admissible.

SUDAMINA.—Numerous minute vesicles of millet-seed size; at first transparent, afterwards slightly opaque, almost or always symptomatic; an attendant on many forms of fever, phthisis.

This miliary eruption is evidence of greatly depreciated nerve force, and generally associated with night-sweats, and disappears on the administration of quinine, aromatic sulphuric acid, nux vomica, glycerite ozone, mistura guaiacol.

Effusion of Lymph—Ecthyma.—Eruption of pustules; situated on elevated, hard, inflamed bases, usually distinct, non-contagious, and without fever. Many varieties.

Impetigo.—Pustules, not prominent, breaking, and discharging an excoriating ichor, then thin scabs attended with great heat; itching, smarting. Due to dentition; menstrual disorders; constitutional derangement, local irritation, as in dyeing.

Impetigo Figurata (*Moist Tetter*).—Minute yellow pustules; closely crowded upon an inflamed red skin, then ichorous discharge; greenish-yellow or translucent scabs.

General Measures.—Resort to same general treatment as for other skin diseases. Saxifraga, cacodylate of sodium and phytolacca; locally keep lint or several layers of Canton flannel saturated with boroglycerid lotion, peroxide of hydrogen, covered with oiled silk, change thrice daily.

Papulae, or Pimples—Strophulus.—Red or white gum, according to color. Minute florid pimples, dispersed; sometimes with red patches; over exposed surface, or the whole body; occasionally with a few vesicles. A disease of infants; often due to irritating clothing, filth or gastric irritation.

Lichen.—An extensive eruption of pimples, in children or adults, with or without internal disorder; followed by desquamation.

Lichen Simplex.—Prickly heat, small red pimples, on face forearm, or whole body; with head tingling and itching; usually preceded by fever; duration, one or two weeks, or chronic. Alkaline baths.

Lichen Agrius.—Begins with fever, subsiding with eruption, numerous red pimples, in large patches, with efflorescence; often a few vesicles. Itching, burning and smarting, followed by excoriation, scabs, then dry scales; skin often fissured, duration, two weeks or more.

Urticatus.—Combined with urticaria. Other varieties. Usually due to heat or disordered digestion. May follow fever: scarlatina, rubeola, strophulus, prurigo, erythema, urticaria: sometimes from eczema, impetigo, psoriasis, herpes, syphilitic eruptions.

Prurigo.—Papulæ of the color of the skin, with excessive itching, usually chronic and without fever. Eruption in one or many spots, usually on the neck, back, or outer side of the limbs; the violent scratching followed by small black scabs of concreted bloody matter, itching, creeping, pricking; in old

cases, eruption mingled with vesicles enlarged, hardened and with pustules; peculiarly inveterate and troublesome. Due to gastrointestinal disorder; deteriorated health, uncleanliness. Many varieties.

General Remedies.—In all cases attention to stomach and bowels; rectify any condition of indigestion or malassimilation. Inculcate a general tonic and alterative. Give saxifraga and phytolacca comp., cacodylate of sodium, cinchona, ozone water, glycerite of ozone, avena sativa.

Diet.—Rich in blood elements; daily alkaline and bran baths.

ACNE.—Chronic eruption of scattered pustules, with inflamed, hardened base, terminating often in tubercles, and probably seated in the sebaceous follicles, occurring on the face, shoulders, chest, or about the nose and on the cheeks. Most frequent between the ages of fifteen or thirty years, and probably always or more frequently due to onanism, or masturbation, usually obstinate. Many varieties.

Remedies.—Saxifraga, phytolacca, glycerite of ozone. Face washes of lime-water and iodide of potash, hydrarg. bichlorate, sulphur.

ROSACEA.—Yellow pustules on a deep-red base, the former often giving place to tubercles. Most common on the nose; then on the cheeks and forehead, occurring from intemperate eating or drinking. Digestive disorders on or about the cessation of the menses often give rise to it.

Remedies.—Stimulate liver. Nux, saxifraga, sulphur, cacodylate of sodium, or phytolacca. Apply ozone ointment, or an ointment of sulphur, or sulphur boiled with lime, iodide potass and chloride of ammonia to the nose.

PARASITES.—These affections consist of both disease germs, animal and vegetable, and parasites, pretty much embraced under the head of tinea.

TINEA CAPITIS.—After thoroughly cleansing the head and removing all the incrustations possible, the daily application of the following speedily destroys the vegetable growth: Salicylic acid. gr. xxx; tinct. benzoate, gtt. xxx; ozone ointment, one ounce. Mix.

TINEA TONSURANS.—The parasite here is the trichophyton tonsurans; when located on the head gives rise to tinea capitis, or crusta tactea, or scald head of infants; when on the body ringworm, vesicles in circular patches, followed by minute scales; successive crops; usually on the face, neck or arms.

Tinea Favosa, common form; scabs quite regular, cup-shaped so as to resemble honeycomb. May remain for years. Disintegrating at their surface and falling off in white powder, offensive odor.

Tinea Decalvans, a cryptogamic growth arising from the hair follicles.

Tinea Versicolor, liver spot, a cryptogamic growth in the pigmentary gland.

Tinea Sycosis, due to a cryptogamic growth of fungus, extremely contagious, like all the preceding parasite affections. Small pustules, scattered or closely crowded, seated in the sebaceous and hair follicles, each pustule usually penetrated by a hair; often on the chin or upper lip; the pustules followed by brownish scabs.

Remedies.—In all the parasite diseases of the skin, remove incrustation of parasites by linseed-meal poultices; then apply germicides, as ozone ointment, iodide of sulphur ointment, thymol ointment, lotions of boroglycerid, salicylate soda.

Improve general health by alteratives and tonics, saxifraga, cacodylate of sodium, cinchona, mineral acids, country air, daily bathing. Keep eruption rigidly excluded from air and light.

Scabies.—Itch, pimples, vesicles and pustules, singly or intermixed; between the fingers, or on the wrists, or in other parts, with intolerable itching. Contagious; first, itching; the part examined showing a minute vesicle; these usually separate; scratching leaves scabs and dark crusts, or pustules. Often intermixed with other forms of skin diseases.

Diagnosis.—Nothing reliable but the presence of the itch insect (acarus scabies) in the field of the microscope, where it can be seen with a low power, if it exists.

Remedies.—Rub over affected parts with an ointment of thymol or ozone ointment, or both, or with benzoin or bergamot. Another good formula: Naphtholi, 15 parts; saponis virid., 50 parts; adipis, 100 parts; pulv. cretæ alb., 10 parts. Mix. Anoint patient all over with this.

Squamous—Psoriasis.—Slight elevations of reddened skin, covered with whitish scales; not depressed in the centre; originating in minute papules; the patches sometimes rough and chapped, attended with severe itching, burning and tingling, occurring on the face, more frequently on the body and limbs; sometimes on the hands (grocers' itch); sometimes on the prepuce or scrotum. Severe forms preceded by fever, headache, etc.

General Measures.—Everything to be done to build up the nervous system and purify the blood; locally, bran bath and chrysophanic acid, as follows: Chrysarobin, 10 parts; salicylic acid, 10 parts; ether, 15 parts; flexible collodion, 100 parts. Paint over the affected part once or twice daily.

LEPRA.—Leprosy, a disease beginning with minute solid eminences; followed by scaly patches; with depressed centre, the scales fall and are renewed, enlarging on the border. Duration indefinite. Many varieties.

Chaulmoogra oil, echinacea, cacodylate of sodium.

PITYRIASIS, or dandruff, brain disease. Superficial inflammation of the skin with continued exfoliation of minute, bran-like scales, usually on the head, often extending to parts or whole of the body with itching, pricking, etc. May appear at first in dry, white scales, or in superficial redness followed by scales. Sometimes when the scales are removed ichor follows, then scabs on scalp, termed dandruff; in severe forms the ichorous discharge concretes with the hair, forming a thick crust over the head. On the eyebrows and face it is termed morphew.

Remedies.—Alteratives and tonics. Kephalin, avena sativa, coca, cinchona, mineral acids, kolatin.

ICHTHYOSIS, fish-skin disease, a thickened, hardened, rough state of the cuticle, somewhat resembling horn; breaking into irregular scale-like pieces; without inflammation. Most frequently congenital, and in these cases the skin, at birth, is of a thick, harsh and dirty color. No itching or pain; health often remarkably good.

TUBERCULAR—ELEPHANTIASIS (of the Greeks).—Eruption of irregular tumors from the size of a pea to that of a walnut. Shining; dusky red, and afterwards bronze colored; very tender; usually on the face, which is then knotty, rugose, distended, enlarged and of livid hue. May extend to contiguous mucous membranes and organs of sense, causing partial or complete loss of the senses, of the voice.

ELEPHANTIASIS (of the Arabians).—Barbadoes leg; chronic; indurated swelling of subcutaneous tissues with alteration of the skin, and enlargement and deformity of the limb. Beginning with acute inflammation of lymphatic vessels, and fever, then the skin sometimes smooth, sometimes fissured, with ulcers, etc., often with erysipelas. Sometimes subsides spontaneously.

FRAMBESIA.—Yaws; eruption of tuberculous excrescences

resembling raspberries; most abundant in the face, axilla; groins and about the genitals. Contagious.

DISCOLORATION.—FRECKLES, patches of excessive development of pigmentum nigrum.

BRONZE-HUE.—In large, irregular patches; due to continued use of nitrate of silver.

EPHELIS.—Patches of yellow, or brownish-yellow discoloration, with bran-like exfoliation and slight itching.

The recent additions to our list of remedies for all cutaneous diseases are the ozone tablets and peroxide of hydrogen. Both remedies are meeting with great success in those chronic or so-called incurable cases, as rupia, psoriasis, lepra, etc.

The skin, without any condition of disease, may increase in length and breadth so as to form flaps or ridges.

WARTS, OR VEGETATIONS, are simply an increase of the papillæ and cuticle. The commonest variety is that met with on the hands of children,which consists of lengthened papillæ, each containing a vascular loop, and clothed with dry, hard cuticle. Another class consists of enlarged papillæ, clothed with a very thin cuticle, which come on the inside of the thighs, perineum, and on the genital organs. Some are highly vascular, and bleed easily; some are pale, indolent, flat; others tall, and discharge a sour, irritating fluid.

Treatment.—The parts should be washed several times a day with borax and glycerin; and if they do not disappear, touch them daily with a ten per cent solution of chromic acid or ozonized oil of thuja. Horny excrescences should be removed by the knife.

MOLES.—Oblong patches of imperfectly organized skin, with black matter in its interstices. Small vascular patches and other congenital conditions should be removed with chromic acid.

CORNS.—These are simply growths of thick cuticle, not lying on the true skin like callosities, but penetrating into it. They are caused by friction or pressure of tight boots or shoes. There are two kinds, the hard and the soft. The hard is situated on the surface of the foot, where the cuticle can become dry and hard; the soft, between the toes, where the cuticle is soft and spongy.

Treatment.—Boots and shoes well adapted to the feet; feet to be bathed night and morning in soft water, or rendered soft by soda, well dried, and rubbed with glycerin.

To remove corns without a particle of pain, and within a

short period, take salicylic acid, thirty grains; extract of cannabis indica, five grains; collodion, half an ounce. Mix. Apply with a camel's-hair-pencil brush thrice daily.

BUNION.—A swelling over the metatarsal joint of the great toe. It is simply a bursal swelling, or thickened bursa, more or less inflamed and tender, with an increase of fluid. It should be treated by rest, alkaline fomentations, and keeping it painted over with collodion and tannic acid.

SLEEP.—Sleep consists essentially of a suspension of the higher functions of the higher centres of sensation and perception, inaction of the motor centres. The action of the cord persists as well as the vital reflexes.

The majority of people in this country do not have sufficient sleep. We are frequently accused of being a nervous race, showing conditions of mental and physical excitement in many forms of expression to a far greater degree than other races. This is no doubt owing to our peculiar civilization, and to the fact that new countries afford greater opportunities than those which have long been settled. Thus ambition and energy are developed in proportion to the chance for their prosperous display. These conditions, together with possible climatic influences in some cases, are sufficient to account for the prevailing nervous activity and tension. The consequent lack of natural sleep is without question the chief exciting cause of broken health and depleted nervous force in a large number of cases.

Eight hours of sound sleep is enough for the average adult in good health. This does not mean simply eight hours in bed, but that amount of solid sleep night after night. To be sure, there are persons who apparently do well on six or seven hours of sleep in the twenty-four, but these are rare exceptions to the rule. Very few people in good health can be at their best without nine hours of sleep every night. Yet very few in active life get as much as six or seven hours.

If this amount is required for one in health who is not exhausting more nervous and muscular force each day than his organic capacity can restore, then it is rational to conclude that when there is unusual strain of emotion, intellect, or muscle, more rest and sleep are needed to maintain the economy against wear and tear.

It seems to be an accepted fact by physiologists that ultimate nutrition—that is, the actual conversion of the blood elements maintained by food into the various structures of the body as

nerve cells, muscle fibre, bones, etc.—takes place mainly while these structures are in a quiescent state, or, so to speak, "off duty." Hence, unconsciousness represents the best condition for nutrition, and normal unconsciousness is sleep. It is, therefore, when the brain and whole cerebrospinal nervous system are in repose that exhausted force and the power to direct its expression can best be renewed.

While then it is true that simply resting will often enable one to recover from fatigue, still the more profound rest secured by sleep is needed, especially in order that the brain and spinal nervous system may be rehabilitated each twenty-four hours to such a degree that health and strength are maintained and not slowly wasted away.

There is but little danger that anyone in active life will sleep too much. To you who are exhausted, worn out, and sick the plea is made that you set to yourselves the task of adding faithfully one or two hours more to your sleep each night, and in this way gain enough in nervous power and control to enable you to live without stimulation of one kind and another.

Rest comes from an upbuilding of the nerve centres and muscular structures, and a general reconstruction of the tissues, including the fluids of the body. This ultimate nutrition or exchange between the tissues of the body, the blood, and excretory fluids takes place more rapidly and thoroughly before midnight, because then there is a more rapid and thorough circulation of the blood, carrying new material to and removing waste matters from the tissues. There is also a greater consumption of oxygen before midnight than after until the sleeper rises and stirs about next morning. Oxygen is the one thing needed in order that this ultimate nutrition, this interchange so vital to health, shall readily and healthfully take place. The heart runs down in force after midnight until sunrise next morning, the vital processes are slower, the circulation is more sluggish, and the blood and tissues contain more of waste and poisonous material than earlier in the night. This is indicated by the fact that nightmare, dreams, convulsions, croup, attacks of illness, and death occur more frequently after midnight than before.

Another reason why early sleep is better than late is because the muscles and the brain or other nerve centres rest more quickly and thoroughly before reaching the point of strain or exhaustion than they will after. Therefore, to prolong excitement, study, or fatigue of any sort late into the night is to prejudice recuperation or recovery.

Sleeping-rooms need not necessarily be cold, for the air may be warm and yet fresh and pure. During cold weather the temperature of a sleeping-room should not be much lower than during the day. But there is greater necessity for pure air than during the day, because less oxygen is inhaled in the recumbent and somnolent state. As a people we live in too highly heated rooms. A temperature not above 64 degrees F. in our artificially-heated rooms would lead to better conditions of health. No one should sleep in a draught, of course, but every sleeping-room should have some arrangement for withdrawing foul air as well as for introducing fresh air, so that perfect circulation is secured. Remember that ultimate nutrition can take place but slowly unless plenty of oxygen is consumed. As the consumption of oxygen is less in sleep than at other times, the greater is the necessity for pure air in order that nature may have all the materials needed during her hours of recuperation.

SMEGMA.—The micro-organism is found in the smegma and secretions of the mucous membrane of the external genital organs, which in shape and reaction is almost identical with the bacillus of leprosy, but easily distinguished from it. The smegma bacillus is completely decolored by immersing the dried and stained preparation in a 33 1-3 per cent solution of nitric acid, and subsequently in alcohol. In specimens thus treated the bacillus disappears, while the leprosy bacillus thus treated remains deeply stained.

The bacillus of smegma is completely sterilized and annihilated by boroglycerid.

The parts should be bathed every morning with Castile soap and hot water, well dried, then a saturated solution of boroglycerid applied and permitted to dry in.

SODIUM, SULPHOCARBOLATE.—Indicated in the prevention or ingress and destruction of the oidium albicans of diphtheria, the microbes of smallpox, the bacteria-vibrio of puerperal fever, the bacteria of erysipelas, and boils, and all forms of rectal ulcer caused by eroding germs. It renders the blood aseptic, making that fluid a habitat into which no disease germ will enter while the patient is taking that drug.

Dose: For children, 1 to 2 grains; for adults, 3 to 4 grains; added to water or dry on the tongue or rectum, every four hours.

SPARTEIN SULPHATE.—Its administration causes an increase in the force and frequency of the heart's beat.

An excellent remedy in atrophy, atony, or weakness of the heart.

Sulphate of spartein is indicated in all cases of enlarged, flabby heart. It increases its vital stamina. It also has a marked diuretic action.

Dose: One-half to 1 grain, thrice daily.

SPERMATORRHEA.—Among numerous medical works issued from the press, many are replete with most ingenious speculations, and enriched with principles founded upon the closest, most extensive observation; it unaccountably happens that none are strictly and closely devoted to the nature, cause and treatment of spermatorrhea, one of the maladies which is sapping our very vitals as a nation. There has been much written on sexual debility, impotency and kindred affections, but little on their cause, which is remarkable and unaccountable, more especially as experience convinces us that generative debility and imperfections, either hereditary or acquired, constitute nine-tenths of all cases of neurasthenia, mental imbecility and derangement.

The great prevalence of disease of the genitourinary organs, the impending necessity of their better recognition and a more scientific treatment, has done much to cause physicians to more fully appreciate the cause, treatment and cure of such affections.

The great improvement in the microscope, its general use and appreciation by nearly all physicians, has been the means of giving us more light and interest in a class of maladies scarcely recognized in our standard works on medicine.

The discovery of the spermatozoa naturally led to inquiries regarding the spermatic fluid, to the absence or presence of the germ cell, to its vigor, size, to the tendency of its degeneration into spermatic crystals, to the abundance or poverty of the prostatic secretion in which the spermatozoa are suspended.

Of late years it has been the custom of either careless or designing physicians to classify all forms of sexual disease under two general heads, namely, spermatorrhea and physical decay. This, in our present age, is quite insufficient for an explanation.

Predisposing Causes.—Civilization creates certain evils and ameliorates others not her own; among the principal evils of a

highly developed condition is a state of neurasthenia or poverty of nerve force, which operates disastrously upon the sexual appetite or sense in the base of the brain—a sort of perversion is created.

This neurasthenic condition is aggravated by a highly oxygenized atmosphere such as exists in North America.

The nervous system of an American is highly developed, and is but a bundle of reflex irritation—an irritation of one part is liable to produce an irritation in some other, the nature and locality of which depends on the degree of irritation, constitution of the individual.

A population nervously exhausted have a small amount of nerve force in reserve, and this reserve is often easily and speedily exhausted.

From the nature and degree of irritation of the stomach and prostate urethra incidental to a highly civilized condition—we have the reflex centre highly sensitive to impressions—a morbid state, both an effect and cause, of nervous exhaustion. For example: it is impossible for anyone having an irritable prostate to be in good health in other respects; and it is impossible for one to suffer from nervous exhaustion and not have an irritable prostate urethra.

Poverty of nerve force, sexual debility, predisposes to conditions or injurious habits, which destroy health and undermine the constitutions of our fellow-men. To these habits specially belong indulgence in alcoholic drinks, tea, coffee, tobacco, opium, chloral; breathing impure air, overwork and other causes.

The creation of these habits is the outcome of neurasthenia. The evil effects of intemperance are frightful to contemplate. They produce a slow, increasing debility, a widespread propagation of disease. Alcoholic drinks to a mentally exhausted American are a stimulant, an exciter of nervous energy to an unnatural degree, invariably followed by a corresponding amount of depression of mind and body. The habitual overstimulation of the nervous system rapidly undermines nervous power, and ruins the elasticity of the nerves and contractility of the muscles. Besides, all stimulants are arresters of normal metamorphosis, slow the action of important excretory glands, engender disease, impair the appetite, destroy digestion, create fatty liver, kidneys and heart; give rise to palsy, apoplexy, gout, brain-softening, insanity.

The insanitary condition and impure air of all our large

cities are fearful sources of neurasthenia. The re-breathing of our own or others expired air is extremely deleterious, especially when loaded with the microbes of our sewers—a subtle, microbic poison. When impure air, deficient in oxygen, is continuously breathed, we have a typical characteristic deterioration engendered. Add to this the various vices of civilization, tobacco, late hours, overwork, etc.

These and many other elements of deterioration are at work, and tend to bring about the practice of self-abuse.

This is the practice which is the most debilitating, most pernicious, because it has a direct effect in draining off the nervo-vital fluid, and undermines the nerve forces of the whole body. The habit, I regret to say, is widely spread, whittles, withers, blasts all the elements of our being, and brings about either insanity or suicide.

The exciting causes are very numerous, and may be embraced in a few sentences, although very variable. Neurasthenia lies at the origin of every case, even when it arises from palpitation of the heart, pain in the head with impaired vision, excessive nervous trepidation, spermatorrhea from fear.

Drastic purgatives give rise to spermatic discharges. Habitual constipation produces emission. Ascarides or seat or pin worms and piles often cause spermatorrhea by the irritation they produce in the rectum, which extends to the bladder, vesiculæ seminales and prostate. Stricture is often a cause of seminal emissions as well as impotency.

Gonorrhea is a cause of seminal pollutions, especially repeated attacks when neglected or maltreated. After inflammatory action has subsided the seminal ducts are left relaxed. A very large percentage of cases are traceable to this cause. They usually complain of a sense of fullness, pain and heat at the neck of the bladder, with a quantity of spermatozoa constantly in the discharge.

The microbe of syphilis is also productive of a flowing away of the semen, as its presence invariably damages the secretory glands of the testes.

Irritation from phimosis, and the presence of the sebaceous secretion behind the glans penis, are most productive of it.

Injuries to the back of the head and spine, irritation of the cerebellum, cause incapacity of the procreative function and a loss of semen.

The use of tobacco, high-seasoned food, use of stimulants, warm climate, overheated rooms, sleeping on soft, downy

beds, have a great influence, and prove fruitful sources of seminal discharges and general enervation. Drinking copiously before retiring, causing distention of the bladder, irritation of the seminal ducts. An excess of uric acid from malassimilation and breaking down of tissue is both a predisposing and exciting cause of seminal discharges.

Immoral reading, sensually-exciting novels are very prone, if persisted in, to give rise to a slight imperceptible oozing from the urethra.

It is simply mental masturbation, and it does not essentially differ from manipulation with the hand. Those discharges acquired from reading immoral works are most frequently discoverable after stool. Those works degrade the moral nature of man, ruin the constitution, embittering the best days of existence, leading to insanity or suicide.

Excessive sexual indulgence, and also promiscuous congress, are not only debilitating but cause spermatorrhea. Intercourse with prostitutes has a most disastrous effect, causing both spermatorrhea and sterility.

Bicycling and horseback exercise are both productive of spermatorrhea and enlarged prostate, with irreparable impotency. Old men, as a rule, are sterile from disease, as hypertrophied prostate, and are often troubled with leakages which are the cause of vertigo and apoplexy.

Wearing condums during the sexual act is most pernicious, and invariably gives rise to spermatorrhea and sexual incapacity. The practice carried out by many married men of withdrawal in the act of ejaculation is equal in its ill effects to masturbation, spermatorrhea and impotency and mental imbecility are its reward.

It is also most injurious to have coitus with a woman, however virtuous, that wears a sponge or a uterine tent or vail for the purpose of preventing conception; such a practice causes spermatorrhea in the male, leukorrhea in the female.

It is productive of spermatorrhea and seminal leakages to have sexual congress with a woman who is as callous as a stone; or who has leukorrhea or catarrh of the uterus; or who has a large, non-contractile vagina, or who is sexually incompatible.

Of course, ulceration of the os uteri, or the presence of warts on the neck, or any epithelioma, are all contagious and infectious, and with such sexual congress should be interdicted.

The chemicals in use by certain trades, as photographers,

give rise to spermatorrhea. Severe study, especially if the patient be of a nervous temperament and delicate constitution, will, from the confinement, mental exertion and sedentary life, often occasion spermatorrhea.

Certain localities give rise to it, especially when there is deficient ozone areas.

Certain sections, in which the atmosphere is excessively oxygenized, are productive not only of spermatorrhea, but impotence.

The uric acid diathesis is not only a predisposing, but an active exciting cause of spermatorrhea.

Worms in the intestines are a prolific source of irritation of the seminal ducts.

Symptoms.—We shall now very briefly enumerate the more prominent symptoms of sexual neurasthenia or spermatorrhea, requesting our readers to bear in mind that no two cases are precisely alike; that there are several distinct as well as several mixed or complicated forms of both spermatorrhea and impotency, varying according to the cause and location of the disease.

The most common symptoms in its mildest or simplest form are: Deranged digestion, with a sluggish condition of the bowels and liver; the appetite is poor; loss of flesh and memory; flushes of heat and blushing; irritability; fretful by paroxysms; general apathy; often unrefreshing sleep, with strange dreams, from which he arises unrefreshed; with crackling joints, the result of deficient synovial secretion; leakages or losses or emissions, either diurnal or nocturnal, or both, or while straining at stool. Premature discharge on the slightest excitement; genital and urinary irritation; diabetes; deposits of urea, phosphates and oxalates in the urine; either weakness or irritation of the kidneys, with albumin in the urine; troubled breathing, with irregular action of the heart. Eruptions of acne and ecthyma on the face and neck. Very frequently frontal headache, but still more agonizing the occipital headache so common. Impairment of vision; general debility and indolence; aversion to society; general relaxation of the organs with atrophy; frequent, nay, often urgent calls to urinate. If there be insomnia, generally associated with melancholia and a feeling as if the bowels would fall out. Ambitionless, great indecision of character, loss of will power, timidity, strange desires, often neuralgic pains in all parts of the body.

As the disease advances all the symptoms become aggra-

vated, the weeping, the seminal weakness, and general debility is greater, and unless reliable treatment is resorted to at once, the victim passes into a more chronic stage. The action of the heart becomes slow and sluggish, sometimes almost imperceptible, at other times intermitting; the patient is easily startled; more undecided and timid; at times greater despondency and loss of energy; hypochondriasis is more confirmed, a feeling or belief that recovery is impossible, and a fear or rather a terror of sudden death. Very wakeful, startling sensations in sleep, frightful dreams, nervous twitchings or tremblings, roaring in the ears, specks and spots before the eyes, with a general aggravation of all the symptoms already enumerated. Digestion becomes weaker, the power of assimilation even more impaired; dyspeptic symptoms are complained of; the complexion is sallow, patient very anxious and morose; his mental and physical powers completely bankrupted. Muscles weak and flabby, and there is a marked loss of flesh and strength, and the victim is in the most miserable, nay, deplorable condition in which it is possible for a man to exist.

The principal local symptom is the loss or discharge of semen, whether attended or not by venereal dreams. This discharge may be diurnal, or nocturnal, or both, and in quantity from a mere moisture to a profuse emission, but most generally while urinating or at stool. The appearance of spermatozoa in the moisture, leakage, or discharge is an unmistakable landmark of a dangerous malady.

Erections, followed by a moisture, and a sense of exhaustion or weariness are very certain symptoms. Accompanying these there is an almost invisible trickling from, or rather a glueing of, the urethra; just a mere humidity at the orifice of the urethra; a sort of oozing, which in its slow but sure effect is not less debilitating than a perceptible emission. Among the same class of patients there is likely to take place on the occurrence of a voluptuous thought, or reading a sensual book, or when in the society of females, or even by the accidental friction of the clothes, a mucous discharge, thin, watery, perhaps small in quantity, so that there is a mere moisture, or as if a single drop of urine had escaped. In this moisture or drop we can detect by the microscope spermatozoa, perhaps healthy, but more likely deteriorated, or misshapen by disease, but the gradual loss of which strikes at undermining the vitality of the entire man.

In all cases of spermatorrhea the deep, prostatic portion of

the urethra is irritated, inflamed. This is the most important centre of reflexes in the body. A morbid state of this part of the body is both a cause and effect of numerous functional disorders, reflex states of the stomach, bowels, liver, heart, lungs. Indeed, difficulty of breathing, cough and tightness of the chest are the reflexes of seminal disorder, and have actually been mistaken for cardiac and pulmonary disease. No doubt many patients have been maltreated for a class of diseases when the real malady was spermatorrhea.

Latent, hidden, unsuspected spermatorrhea is a much more terrible affection than what we have been describing. It is an unnatural emission of the seminal fluid, an excessive spermatic evacuation, occurring either by night or day. Visible moisture, a weeping from the penis, a profuse discharge at night, with or without dreams, but an insidious discharge, not visible to the eye, is generally more destructive in its effects than any other. This emission takes place both day and night, and regurgitates backward into the bladder, or passes into the urine at stool, seldom suspected by the patient, and often escapes the vigilance of an experienced physician.

Daily leakages are always more dangerous than those that occur at night, and indicate an obstinate form of the disease. A patient with nightly losses, having them to perceptibly cease, may imagine them to cease when really the patient is worse by having them changed in their course; the secret form hurries the patient to his grave. Such cases are extremely apt to be mismanaged, because misunderstood.

Thousands of our young, middle-aged and old men have latent spermatorrhea, which gives rise to a variety of derangements, with distressing and fatal symptoms, mental and bodily.

The diagnosis or recognition of a loss of semen is based upon the general deportment of the affected individual. He is queer or eccentric, he has suffered or undergone a remarkable change in his disposition. He is extremely irritable and fretful, unsettled and discontented, melancholy by spells, has lost all energy, has no ambition, has cracking in his joints, nocturnal and diurnal pollutions, with an escape of seminal fluid at stool or in urinating, or both; and the spermatozoa, either natural or dwarf, or misshapen, or degenerated, are to be found in one or all of the oozings when such is placed under the field of the microscope.

Or again. The diagnosis can be strengthened by the fact that these patients are unfit for any occupation, incapacitated

for deep thought, incessantly worrying and fretting about themselves. The unnatural seminal discharges are often accompanied with an increased, nay, an excessive appetite, owing to the necessity which the system feels for compensating the various losses it sustains. It is often voracious. Masturbation often produces similar effects.

It is not hunger, but a gnawing uneasiness or sinking. There is also a craving for stimulants, which aggravate the misery and suffering.

The irritable prostate urethra gives rise to a constant desire to make water, with irritation and pain, associated with habitual constipation. The heart, liver, bowels, kidneys are often reflexly affected.

Again, if the practice of masturbation be still persisted in, there will be dark circles round the eyes; the hair will be scanty, stunted in its growth, both on the beard, eyebrows and head, baldness common. Hair growth strengthens when these losses are arrested.

Stammering and choreic twitching not infrequent; a change or alteration in the voice is a most excellent diagnostic landmark. It may originate first in masturbation. Under this devitalizing practice it loses tone, its masculine force and power. When the habit is stopped, confirmed spermatorrhea has set in, it is replaced by a shrill, squeaking, effeminate tone.

Again, spermatorrhea may often be recognized by ocular defects. Myopia is the most common. In some cases complete amaurosis or blindness. In all cases the eyes are dull, heavy, watery, pupils dilated, indicating brain anemia; muscæ volitantes, specks and spots before the eyes. They are invariably incapable of looking any one straight in the face.

Deafness, with or without noises in the ears, is also an excellent landmark. Hearing restored when losses are stopped.

Again, incontinence of urine in the early period of life, followed after puberty with nightly discharges, urine copious, low syecific gravity; as they mature in life evince a dislike to the opposite sex.

Epileptic fits are in nine cases out of ten due to masturbation, followed by spermatorrhea.

Excessive seminal losses cause paralysis of the lower extremities.

Again, our strongest points of recognition of spermatorrhea are the moisture, the oozing, the weeping from the urethra.

The presence of the spermatozoa, the chaotic condition of the genitourinary system.

This constant drain upon the brain, this state of chaos, the constant association of sexual disorder, with more or less generative incapacity, demoralizes the brain, mental derangement. It is notorious that every insane individual, male or female, has been or is suffering from either mental or physical masturbation, has some procreative difficulty, defect or disorder, either a leakage, impotency, sterility, or all, the removal of which often cures the insanity. In the examination of 99 males out of 100 the prostatic portion of the urethra is painful, sensitive; passing a bougie, any quantity of seminal fluid will flow.

In the recognition of spermatorrhea, suspecting the nature of the disorder, we might examine the testicle, which we find withered, pendulous, with induration of the epididymis, the veins of the spermatic cord varicose, with a careworn, haggard appearance.

The history of the case as given by the large percentage of patients is unreliable, calculated to mislead; even a microscopical examination for seminal products in the urine, although present in large quantities, may be distorted, owing to the chaotic condition of the testes.

If indigestion be the leading feature in any individual case, with pains in the loins, with irritation and retraction of the testicles, oxalate of lime will likely be abundant and persistent.

Seminal discharges are frequently mistaken for gleet, an error which can be easily detected by a microscopical examination of the discharge. This is definite, and sets all doubts at rest. Even the presence of the gonococcus is readily distinguished or any discharges from a catarrhal prostate or urethra.

The presence of the spermatozoa in the discharge, no matter how dwarfed, withered or deformed, settles the point at once.

This should be done in every case of urethral discharge, so as to leave no doubts as to the true nature of the disease under consideration.

Oftentimes the presence of oxalates, urates and phosphates in the urine. Their very presence and quantity affords a barometric condition of the amount of sexual exhaustion in the male.

The seminal fluid is not an excrementitious secretion like the urine. It was never intended by our Creator that this, the most highly vitalized fluid, a purely nervo-vital fluid, should be discharged from the system either recklessly or indiscriminately; in health, that is when neither lost by excessive sexual congress

nor by masturbation nor by leakages or losses of any kind, a portion of this vital secretion is re-absorbed and taken back into the blood, and it is this which in some measure imparts to the system that vivacity, tenacity, muscular energy, manliness, vigor, noble carriage which brave men and intelligent men possess; nay, its retention even modulates the voice, imparting to it great power.

A very constant effect of a loss of semen is a general decline of vital power—especially the intellectual faculties. The mind weakened, its normal tone lowers, gives rise to uneasiness, change; considerable difficulty in fixing the mind for any length of time upon any particular subject, so that constant application becomes irksome, wearisome, which is followed by an imperceptible decline and irresolution of purpose.

The influence of seminal losses upon the brain and spinal cord is a most disastrous drain, not only intellectually but physically, reducing the suffering to a mere cipher.

The effects, as seen in the young and middle-aged men, are a shrinking or a wasting of the organs of generation, stringiness and flabbiness of the testicles, and, soonor or later, increased nervous weakness, brain exhaustion, spinal irritation, and later on paralysis, nerve-storms, epilepsy and chorea, insanity and brain softening, with a total loss of sexual power. A thick cloud is seen in the urine and a moisture in the urethra, which passes by the name of gleet, but in reality is spermatozoa.

Infertility is the consequence of spermatorrhea; but if there be children they will be delicate and of feeble vital powers, subjects for all forms of disease.

A careful analysis of the many thousand cases of spermatorrhea which I have treated the last forty years has satisfied me that I owe much of my success in the treatment of this malady to my investigations into the chemical and microscopical condition of the urine. The detection by the microscope of spermatozoa in the urine, either healthy, dwarfed or broken down, enables us to form an idea of the nature and severity of the case, as well as the causes which have produced it.

In the treatment an effort must be made to remove all predisposing and exciting causes. The case must be scanned over carefully to ascertain whether either ascarides or thread-worms, or tape-worms, or the gonococcus, or the microbe of syphilis may not be the exciting causes of the repeated losses. A careful history of the numerous cases which have come under my observation has convinced me that the action of those causes is

often at work, especially among our feeble young men, in inducing diurnal or nocturnal losses.

Worms in the rectum often bring on seminal discharges, and in some cases reflexly, epileptic seizures.

If there be thread or any other kind of worms the rectum should be injected every night with an infusion of golden seal, to which some resorcin or creolin is added, and Virginia stone crop and salol administered internally.

Numerous cases have come under my care in which tobacco acted as an exciting cause; when its use was discontinued the losses ceased. When the difficulty is directly traceable to the old habit of masturbation, then the action of the tobacco is doubly disastrous; the nicotin paralyzes the sexual sense at the base of the brain, and aids in the general state of relaxation and impotency. This is true of tobacco in either small or large quantities; it is a paralysis of the procreative functions.

An habitually loaded rectum or constipation is apt to excite seminal pollutions; this condition of the bowels, this inertia, must be effectually overcome by tonic remedies. Patients suffering from seminal debility, with any loss of the nervo-vital, should never use purgatives of any kind.

Piles are also very productive of seminal discharges, and in all cases associated with congested livers and bile in the urine. Ulcers, papilloma and excrescences in the coats of the bowel are all productive of discharge. Regularity of diet and exercise, with gentle means to regulate the bowels, together with daily and nightly hip baths are of great utility.

A highly oxygenized climate, highly seasoned food, the persistent use of stimulants, sleeping upon soft beds, and reading sexually exciting literature, should all be discarded, as they either jointly or as a whole give rise to acidity of the urine, which irritates the mucous membrane, and is usually attended with pains or irritation in the loins.

The pollutions occurring at an early age are much more lasting and dangerous, especially when they occur in growing boys. Nocturnal emissions at this period are most destructive to the health, much more serious than when they occur at an advanced age, and if allowed to proceed unchecked, the patient both in mind and body will be irretrievably ruined.

The treatment of all cases of spermatorrhea may be briefly stated. The patient should pay the greatest possible attention to the general health; the daily bathing of the entire body, with a sitz bath before retiring to bed. He should wear flannel next

to his skin summer and winter; he should eat a light but most nutritious food, but one free from spices; his reading should be history, not the sexually exciting reading of the times.

The medical treatment calculated to check emissions or leakages, that is to arrest them forever, in other words, to stamp them out, is as follows:

The green root tincture of gelsemium, alone or combined with the ozonized extract of passiflora incarnata, must be administered every night in sufficient doses to subdue all erections for the night—to keep the penis as limber as an old dish-rag.

Then during the day the ozonized extract of black willow should be administered in sufficient doses to produce anesthesia of all the reproductive glands, but no cerebral disturbance. The patient must be kept under its influence for some weeks and even months.

Just before retiring a suppository, made from the glucoside of the black willow, should be inserted into the rectum, and once or twice a week soluble bougies of the black willow glucoside should be inserted into the urethra and retained there till it dissolves.

Possibly a few weeks of this treatment may suffice; in other cases it may take some months before every vestige of leakage or moisture ceases; but if these drugs are used and pushed with energy, success is certain, never failing, and all the time the genitalia resting, gaining strength, vigor.

When all emissions, leakages, moisture, weeping have ceased, dried up, the gelsemium should be gradually dropped, and there should be inaugurated a constructive, tonic treatment, a building up course, such as comp. tincture matricaria before and c. p. solution of spermin after meals, with occasional doses of thyroid extract, protonuclein.

This is the best method; and if there be a failure in this course of treatment, it results either from a want of tact or judgment on the part of the physician, or in some indiscretion on the part of the patient, or a failure to procure the remedies from the proper source. The treatment is never-failing, even in the most hopeless cases.

I cannot too strongly urge upon all physicians the indispensable necessity of a more thorough, rigid examination, not only of the urine, but the testicle and the cord, especially for varicocele, wasting, etc.

The seminal discharges which occur while passing water are usually obstinate and more difficult to cure, unless the ozonized bougies of salix nigra are inserted about twice a week.

Neurosis of the Testes.—The neurosis of the testes is the most common of all forms in the reproductive centre.

It originates either from masturbation, sexual excesses, or congress with harlots, gonorrhea, bicycle. It may occur alone, still we not infrequently find that it reflexly gives rise to brain derangement. It varies greatly in some cases, changes in the testes; in others, a disturbance of cerebral nutrition.

This latter consists in chronic brain affections produced chiefly by abnormal reflex excitability and anemia.

An examination of the brains of the victims of testicular neurosis clearly demonstrates serious organic defects, such as is found in undeveloped brains, a stigma of defective evolution, abnormal tissue, obliteration of fissures, irregularities, even to chaos, such as we find in the brains of criminals, and other points of degeneracy, such as is found in suicides and the insane.

Patients who suffer from neurosis of the testes complain of the most varied sensations in the abdomen, nates, thighs; now a burning, tingling tenderness of the scrotum; again a feeling of weakness; in all, general reflex irritability.

The urine shows great brain waste, phosphates and chlorides in abundance. In some cases, phosphate of lime crystals alone.

In those cases a correct diagnosis is imperative.

Removal of causes, whatever they may be: sexual rest, the exhibition of the comp. tincture of matricaria before meals; one dose of thyroid extract daily c. p. solution of spermin two hours after each meal, are effective in producing a radical cure.

The following notes are from eminent specialists:

There are a certain class of men, who, at a given age, begin to decline in health from some mysterious cause, become weak, nervous, debilitated, and fade away into a premature grave, without a suspicion as to the cause, which, in 90 cases out of 100, is a loss of semen.

This oozing away is often not suspected either by the individual or medical attendant until it has made a serious inroad upon the nervous system and impaired sexual vigor and secretion of semen.

The pathological changes induced in the male semen by masturbation, by excesses, by perversion of the sexual act, by congress with harlots, are manifold. The semen either may be dwarfed or deformed spermatozoa, or a complete absence of it,

or there may be an excess of it, but thin, watery, devoid of vital elements; or it may be scanty, or even normal, but infertile owing to degenerative changes; or it may be secreted and changed into spermatic crystals.

Impotence, a difficulty or impossibility to perform theact of copulation, a state which either implies poverty of nerve force, or impairment of the sexual appetite, or disease, or malformation of genital organs, or derangement of the brain and spinal cord, by reason of which there is either an absence of sexual desire, or power of erection, or of ejaculating the semen into the vagina, or any pleasurable sensation in the act of copulation or emission of semen. Impotence relates to the act of intercourse, and differs essentially from sterility or an inability to beget an offspring.

Without venereal desire or an absence of the sexual appetite, the act of coition would be rarely performed. The essential parts of sexual congress are the emission of semen, the experiencing of physical pleasure before, during, and for some time after its ejaculation. This sensation originates in the seat of sexual appetite in the base of the brain, reflexly in the glans penis, extends to the adjacent parts and is experienced in the spine, head and entire body.

Absence of the sexual appetite is acquired by struggle, worry, strain, nerve-tire, brainwork; sexual indifference is well marked in users of tobacco, alcohol and opium habits; in such states the rendezvous of soul is withered, blighted, whittled down; the sexual appetite is extinguished by masturbation or perverted methods of congress. Venereal disease, balanitis, chancres of the glans penis, destroy its finer sensibility, depreciate vigor, virile power; masturbation weakens the power of erection; so do early excesses; so do gonorrhea, stricture, irritable and enlarged prostate; so does tightness or absence of the prepuce. The glans penis possesses the highest degree of sensibility—this faculty is paramount to all others.

Masturbation is the cause of spermatorrhea, the loss, the oozing away of the nervo-vital fluid, whether it be diurnal or nocturnal; disease of prostate; damaged, irritable, inflamed, enlarged, weakened cord and brain; then failure of procreative power. All this may be oblivious to the patient; semen passing in the urine unobserved, or at stool, or the prostatic secretion with spermatozoa may flow back into the bladder and be discharged during micturition and giving rise to impotence.

In our modern state of civilization our condition of mental

preoccupation operates adversely and is most efficacious in producing impotency. There are numerous factors at work that impair or abolish sexual power, as plethora or obesity, emaciation; the latent germs of cancer, syphilis, tubercle, which engender local atrophy, or wasting of glands or organs; or the want of nerve influence to the testes, injuries or blows on the back of the head, prostatic atrophy or enlargement. The daily use of alcohol, tobacco or any of the acronarcotics, impairs and destroys the sexual appetite.

A weakening, a failure, an abolition of the sexual appetite at any age, prematurely or otherwise, wipes out the rugged traces of the masculine, and the victim of the malady becomes feminine in mind, appearance, habits, dress, tastes.

The structure of the brain and testes are chemically identical; there is a most extraordinary sympathy between them, and the intellectual faculties suffer derangement if there be a neurosis of those glands.

Our materia medica is becoming more prolific in remedies for blotting out testicular neuroses and lost manhood. Thyroid extract and spermin will do much, and for a change, probably, nay, certainly, a prolonged use of avena sativa and kephalin will do much to restore lost vigor; they will increase the cineritious brain element, aid in producing an excess of neurine of nervo-vital fluid, reconstruct the wreckage, harmonize the chaotic nerve currents. Under these the voice will acquire its masculine tone of volume and vigor; the step firmer; the effeminacy of manner, with the long flowing locks, disappear. Increase the area of drugs with muira Puama, damiana to the above list, with the saw-palmetto suppository and what? It will demonstrate to the most incredulous the marvelous efficacy of these remedies in sexual neurasthenia.

SPERMIN (C_2 H_5· N).—A chemically pure solution of sterilized, vitalized extractt or alkaloid, a basic substance obtained from the fresh testicle juice of the bull, bone-marrow and glandular fabric of the reproductive organs, prepared under the most careful antiseptic precautions.

These spermatic crystals are a chemically pure alkaloidal substance, put up in the form of an elegant solution, so as to be acceptable to the most delicate and fastidious stomach.

It is unnecessary to state that the testes give both the internal as well as the external secretion—that the internal makes the man; that life, growth, vigor, are dependent upon it. Every

gland in the body in health contains spermin; it circulates in the blood and is an active factor in the production of vital force.

It is the only known physiological tonic—the only remedy that vitalizes, stimulates and rejuvenates every tissue and organ in the body—the only remedy which gives force to ambition, energy to character.

It is reconstructive to the entire body; if it is deficient or absent, the whole body withers and dies.

As a medicinal agent, it is indicated, and can be prescribed with singular efficacy in all states or conditions in which the vital force is lowered. It is indispensable, nay, necessary to the maintenance of health.

When it is secreted in abundance in the body, or the spermin crystals in solution administered and freely distributed, as it is when taken with the food, there can exist no morbid condition, as it renders the vital force so strong that no disease germ can suffer evolution or enter and grow; and if they have entered, the use of spermin renders them inoperative, or completely neutralizes or antagonizes them.

As a constructive agent in all exhausted states of the nervous system there are no remedies that can be compared with it—a true builder, completely relieving all impoverished conditions.

The draining of semen, giving rise to a deficiency or absence of it in the body, is the precursor of decay, of degeneration, and is attested by ovarian and testicular failure to secrete, or a suspension of their secreting faculty.

The collapse or removal of either the testes or ovaries is invariably followed by cachectic condition, a predisposition to cancerous disease. This remedy should be administered in all morbid conditions, as it renders the toxins and auto-intoxication innocuous.

Take it all in all, it is the most vitalizing tonic and nerve stimulant—the best of all brain fertilizers, the most active reconstructive. A never-failing remedy in cases of hopeless impotency, lethargy and deficient erective power.

The indications for the use of the remedy are:

When the administration of the most powerful vitalizing tonic and nerve stimulant is required—when a brain fertilizer and reconstructive are demanded, this remedy is of decided efficacy.

Properties and Uses.—Its use has a decided influence on the

health, activity and longevity of the blood-corpuscles—heightens all the vital functions, physical as well as mental—promotes a higher type of manhood—blends with and is intimately connected with the origin, existence and prolongation of life—invaluable and never-faiing in hopeless impotency, lethargy and deficient erectile power.

Dose: For all ordinary cases, one teaspoonful every four hours is sufficient; for extraordinary cases two teaspoonfuls as often.

SPICES.—Aromatics, cloves, allspice, peppers, mustard generally speaking energize digestion, increase the formation of blood, of plastic constituents; aid in the deveopment of warmth; increase the energy of the entire vascular system. The use of spices favors nutrition and new formation of blood; limits retrogressive disintegration and organic decay; favors the formation of adipose tissue. Just as digestion is increased, vigorous formation of blood promoted, the mainspring of life, the nervous system, is exalted. As a rule they are all antagonistic to microbic life, and combat failure of vital functions. Cloves arrest putrefaction and kill the malarial germ; cassia or cinnamon, in suppository form, kills the microbe of typhoid fever; thyme is effective in microbic cutaneous diseases; added either to a lotion or ointment, the oil of cassia is singularly efficacious in the cure of cancer.

SPINA BIFIDA.—Cleft spine. A congenital deficiency of the posterior laminæ and spinous process of one or more vertebræ, owing to which there is undue distention of the membranes of cord, with cerebrospinal fluid. It may occur in any of the vertebræ, but most common in the lumbar.

The cause is rickets in the fetus.

Symptoms.—A tumor, varying in size from a walnut to a child's head. There is fluctuation, swelling, most tense when the child is in erect posture. The tumor may be transparent, or the skin may be unaffected, or it may be congested, purple, or blue. If only one or more lumbar vertebræ are affected, spinal cord does not deviate from its course, and only the posterior spinal nerves have any connection with the sac. If the tumor occupy part of lumbar and part of sacral region, the cord itself and its nerves will almost always be found in close contact with the sac. Not necessarily fatal, but likely to be if there is hydrocephalus, or paralysis of the bladder or rectum and lower extremities, or if the tumor bursts.

Treatment.—General treatment for rickets; avoid starch, and give phosphates, and improve the health in every possible manner. Prevent further protrusion by a compress of leather, gutta-percha, or painting it with collodion and tannic acid. Aspiration of the contents of the sac, and then compression, operates well. Injecting tincture of iodine, or applying a clamp till it sloughs off, bad, reprehensible treatment.

The collection of cerebrospinal fluid is first due to the want of the normal support of the vertebræ; its increase due to the irritation and unraveling of the serous fibres, causing exudation. The collection is termed hydrorachitis.

SPINAL CURVATURE.—The spinal column in its natural state is curved, which is a wise provision of nature, for were it straight the impetus of any shock received would be transmitted direct to the body and injuries to the brain more frequent.

In jumping from a height on one's feet, the force of the shock passes from the legs to the spinal column, in passing through which its intensity is diminished by the curvature and the interosseous spaces—curved forward between the shoulders; curved backward in the small of the back. The two curves are compensatory to each other; to this compensation the erect posture of the body is maintained. The synovial secretion in the interosseous spaces, during a good, refreshing sleep of eight hours, adds to the stature two inches or more, which is all used up in the eight hours of work.

There are different forms of spinal curvature, *lateral* and *angular* being the most common; *excurvation,* when the natural stoop in the shoulders is exaggerated, as in continuous writing, cycling; *incurvation,* when the lower portion of the spine is accentuated, as in hip disease.

The predisposing causes are quite numerous: inherent debility ; a deficiency of earthy salts in the bones of the body produced by the use of bakers' bread, impregnated with alum, ammonia and other chemicals—bones are soft; rapidity of growth, under insanitary conditions, indoor life, absence of sunlight; improper food; sedentary occupations; delicate city girls, wanting in all the elements of vitality; tuberculosis; rickets.

The exciting causes are habits, occupations, abnormal positions.

Most common in girls from fifteen to twenty-five.

The cure of the disease consists, first, in removing every cause, and, second, in the physical education of the muscles of the sides and back, so that they will restore the natural form. In some extreme cases massage or electricity will be required; but what is most needed is that the girl get herself interested in her own cure, so as to put her will into it, to try hard to avoid the causes and herself apply the remedy. Fathers and mothers should educate themselves as to their daughters' physical needs and dangers, so they can help them to grow up as straight as an arrow and as healthy as they can be.

Remedies to increase nutrition: Avena sativa, kephalin, spermin, thyroid extract, etc.

SPINAL DIAGNOSIS.—The spinal cord is a series of ganglia, enveloped longitudinally by nervous filaments and contained in a long cavity, called the "spinal canal." From this nerve are distributed fibres and filaments to the muscles and integument of at least nine-tenths of the body. Careful experiments have proved that sensation and motion occupy special parts; but in many of the nerves they are so intimately connected that an injury or bruise destroys both powers simultaneously. In the spinal cord the phenomena are different. If the anterior roots be subjected to experiment, there will result convulsive movements, but no evidence of sensation; if the irritant be applied to the posterior root, the subject will experience acute pain but no motion.

With regard to the mode of action of the spinal cord, we may enumerate three demonstrable facts: (1) An irritation applied to a spinal nerve, at the middle of its course, produces the same effect as if the sensation, thus caused, traversed its entire length. (2) An irritation of the motory filaments disappears from within, outward; that of the sensitive filament, from without, inward. (3) Each nervous filament acts independently of the rest throughout its entire length, and does not communicate its irritation to those which are in proximity with it. We have associated sensations, as when the sight of a luscious peach, or any favorite fruit, excites the sensation of taste; and also associated movements, the most perfect illustration of which is in the consensual movements of the eyes, termed binocular vision. The anterior and posterior roots of the spinal nerves differ in their mode of transmitting the nervous current, and able experimenters have proved that in the anterior roots the impulse is conveyed from within, outward,

and in the posterior, from without, inward. The same mode of afferent and efferent action is found to exist in the cord itself.

The external membrane of the spinal cord has a fibrous, opaque structure, and is termed the *dura mater*. It consists of two laminæ of cellular tissue, and forms a sheath for the spinal nerves. Before removal by dissection, it is much larger than the cord. The *tunica arachnoidae* is a transparent tissue which envelops the brain, and is reflected over the *dura mater,* thus forming a sac. The *pia mater* is a soft membrane of slight vascularity, and lies in intimate contact with the cord itself. The *ligamentum denticulatum* derives its name from its use and structure. It supports the three membranes, and is attached to the pia mater by twenty or more processes. Two longitudinal fissures divide the cord into lateral halves, while two furrows subdivide these halves, and traverse the entire length. Dissection shows it to be composed of vesicular neurin, with an external covering of fibrous tissue. The spinal cord has been termed an "inverted brain." It is problematically true that, if all the gray matter of the nerves could be collected, it might equal, if not exceed in quantity, that contained in the brain. Thirty-one spinal nerves are distributed to the bodily organs. Eight of these are termed cervical, twelve dorsal, five lumbar, and six sacral, according to the portion of the cord from which they proceed.

The filaments, or branches of the spinal nerve, penetrate every particle of the cutis vera. The contact of the point of a pin with any portion of the bodily surface gives rise to a distinct sensation, which, reflected as a motor impulse, stimulates the muscle to action. Injury or destruction of the spinal nerves produces either paralysis of sensation, paralysis of motion, or both. If a spinal nerve be severed at any part of its course, it will ultimately unite if placed in contact, and sensation will be restored. The posterior roots, at their junction with the cord, are distinguished from the anterior by the presence of a gray ganglion or swelling of vesicular neurin.

Debrees of tenderness over origin of spinal nerves is the key to the diagnosis of spinal maladies.

SPIRILLUM PLICATILE.—Within a distance of five miles from the emptying of a sewer into a lake or river, this microbe is found, and found in greater abundance the nearer to the mouth of the sewer. Besides being common in rivers

into which sewage enters, they are abundant in marsh water, and can be obtained by allowing algæ to decomuose in water.

As found it consists of thin threads with numerous narrow windngs. The threads have primary and secondary windings, very irregular; when their ends are cut off bluntly, they exhibit rapid movement.

The presence of the spirillum plicatile in our bays, rivers, lakes gives rise to the bacillus phosphorescens in our fish, oysters, crabs, rendering them unfit for human food.

Progressive artificial cultivations will after half a dozen cultures produce the microbe of typhoid fever. Lime, sulphur, and other bactericides completely annihilate it.

SQUINTING.—Squinting, or strabismus, is a want of harmony in the muscles of the eye. The common form met with in young persons is where the eye is turned inwards, or, convergent; the other form, in which the eye is turned outward, or divergent, is more rare, and is chiefly met with in elderly persons, from paralysis of the internal muscles. Both eyes may be affected, but this is not common.

The causes of squinting are very numerous. It may be congenital, or induced by bad habits, by imitation, by looking at pimples on the nose; or it may come from a stye, which often interferes with the motion of the eye; by the use of one eye to the neglect of the other, or by shading one; it may also result from slight opacities of the cornea; from a variety of nervous causes; and is often the result of reflex irritation in morbid conditions of the stomach, worms, teething and constipation; disorders of the sympathetic system, as fright, passion, etc., and also to disorders of the brain, as convulsions, congestion, effusion, hydrocephalus, etc.

Treatment.—If it be recent, that is not over a few weeks' standing, the difficulty can be frequently overcome by the removal of the causes, as teething, worms, disorders of the stomach and bowels, by the proper remedies; by avoidance of study and reading; by proper exercise to the eyes, and by wearing glasses for the purpose. But if the squint be of long standing, and is habitual, and above all, if there is the slightest disparity in vision of the two eyes, very little good can be effected, unless the internal rectus muscle be divided. This is a very simple proceeding, consisting in placing the patient under chloroform and placing a blunt hook under the muscle and raising it, and then dividing it.

STAMMERING.—Impediment of speech (stuttering) in nearly all cases is a nervous affection; having as its origin a want of equilibrium of the gray and white matter of the cervical portion of the cord, resembling chorea. The vocal apparatus is usually perfect. It may be congenital, but more likely to be the result of some shock in a fright, blow, or reflex condition, or follow some fever, worms, masturbation.

The treatment consists in the removal of the cause; improving the general health by bathing, clothing, frictions to the cervical portion of the spine, thus raising its standard of vitality.

Same remedies as for chorea, to wit: Cacodylate of sodium for a few months. Occasional doses of thyroid extract. Make the child speak slowly and distinctly. Let him fill his chest well before he articulates a word, and then enunciate one word after another. If unable to do that, let him beat time for every word he utters in talking or reading. A persistent course of measuring the words until the stammerer can read and talk straightforward for an hour, daily, will soon overcome the habit. Let the diet be brain-food: boiled fish, oatmeal porridge. Use massage.

STERILITY IN THE FEMALE.—A physical disability to produce offspring. Sterility may be either congenital or acquired by shocks, concussions, injuries or disease. Among nations enjoying the blessings of a highly civilized condition it is most prevalent, and where in and in breeding is common it is probably as generally met with as malformations from this source. The greatest proportion of barrenness exists among females, although the male may be the indirect cause of the unfruitfulness, by transmitting some microbe to the female which sets up changes which militate against conception. No organ of the body of the female exerts so great an influence over both her mental and physical development as the ovaries. At birth they are quite small, smooth and flat; but as growth proceeds to maturity, as puberty aproaches, they enlarge, become oval and tense. This is due to the maturing of the Graafian follicles, to permit their easy rupture for the discharge of the ova—*ovulation.*

When the age of puberty is reached in a healthy, normally built woman of the Caucasian race, in a temperate climate, which is about fourteen years of age, ovulation begins and continues regularly every twenty-eight days (if not interrupted

by pregnancy or some disease) for thirty years. Every twenty-eight days a Graafian follicle ruptures, an ovum or egg is set free, and carried into the uterus.

Menstruation accompanies ovulation; this consists in the discharge of blood and detritus from the walls of the uterus, due to a disintegration of the uterine mucous membrane, preparatory to the implantation of the ovum. This discharge may be a mere show of blood, up to four ounces. After ovulation has been established the ovaries assume a nodular appearance, due to cicatrices left after the discharge of the ovum, and this remains during all the child-bearing period of life, that is, from fifteen to forty-five, when they atrophy and present the appearance of short and thickened bands.

When puberty approaches, with its first menstrual period, all the physical and mental characteristics of the girl change: the breasts enlarge, nipples become prominent; vagina more roomy; uterus takes on a wonderful development; increases in size; pelvis becomes broader; hips and thighs increase in size, become rounder and more symmetrical; hair appears on the pubes; voice becomes more melodious; she becomes vivacious, eyes brilliant, step elastic.

Menstruation is due to ovulation. Conception—that is, spermatozoa entering the ovum and its fixation to the walls of the uterus—may take place in girls before menstruation appears, and in nursing women when menstruation is absent.

There are therefore several essential conditions necessary for reproduction—healthy ova and spermatozoa; a union of the two; the implantation of the fertilized ovum in a uterus fitted for its growth and development. If these conditions do not exist, sterility will be present.

The non-production of healthy ova and spermatozoa may depend on a variety of physical and mental causes, as either injuries to the head and spine, non-development or malposition of the genital glands; or inflammatory conditions, producing atrophy or destruction of those organs; anything affecting the nutrition of or directly invading the ovarian bed, as tumors or growths or the toxins of disease germs, operates disastrously

In all barren marriages, when the symptoms of uterine disease are not well marked, a microscopical examination of the spermatic fluid of the male should be made. This is easily obtained by the use of a condum during coitus.

There may be malformations; one or both ovaries may be congenitally absent or imperfectly developed. The absence of

one is of little importance, for the other, if healthy, is sufficient to furnish ova for impregnation.

Congenital absence or defect of both ovaries is invariably accompanied with other abnormal conditions, physical as well as mental (see Splaying), and abnormal conditions of both the internal and external organs of generation.

Anything which affects nutrition, such as prolapse of the ovaries, which may set up organic changes, which result in atrophy and destruction of the Graafian follicles.

Early marriages, early coition, early child-bearing damages the reproductive organs, and are attended with sterility.

The toxins of disease germs, especially tubercle, syphilis, pneumonia, typhoid fever, act most disastrously, if the ovarian bed be weak from any cause.

Peritonitis, ovarian irritation, and the like, obliterate the follicles—give rise to growths: cystic, dermoid, papillary, fibroid; sarcoma; cancer; induce degenerative changes and sterility.

Varicocele in the female produces trophic changes and sterility. Diabetes, anemia, chlorosis, chronic affections of the nervous system, are prone to give rise to sterility, because there is a lack of vital force to produce healthy ova.

The use of alcohol, tobacco, opium, bromide of potassa, belladonna, coca—all acronarcotic drugs—blight the springs of life, if they do not induce sterility; give conception attended with either feeble-mindedness, or idiocy, or deformity. Obesity is not favorable to the evolution of healthy ovum.

All varieties of prolapsus of the uterus are unfavorable for conception, although in the simple form it often takes place.

Contracted pelvis often prevents the union of ova and spermatozoa. Inflammation of any part of the genital tract, as vaginitis, metritis, salpingo-ovaritis, etc., is decidedly unfavorable for the existence of either ova or spermatozoa.

The neurosis termed vaginismus, a spasmodic contraction of the vagina sphincter—it may be due to ulcers, fissures, irritating secretion, uterine disease; an obstacle to coitus and a cause of sterility.

All forms of obstruction, in the form of hypertrophy, growths, rectal tumors, cystocele, rectocele, enterocele, prevent conception.

The absence of the menses is unfavorable for ovulation, a sign of non-development or either atrophy of the uterus or its appendages. The non-union of healthy ova and spermatozoa

may be caused by stenosis; by a tear or laceration of the vagina in the course traversed by the human germ; by diseased conditions of the passages which tend to impair either the vitality of the ova or spermatozoa; by all states or conditions which either hasten or retard or prevent organism.

An imperforate hymen prevents an entrance to the male organ and an exit to the menses; a laceration of the perineum vagina, cervix, of any extent, permits the escape of the semen.

The microbic discharge of intrauterine catarrh is most unfavorable to the life of the spermatozoa. All uterine displacements prevent the entrance of semen into the ova. In such a state as inversion, conception is impossible.

The micrococcus of gonorrhea or its toxins—all inflammatory states of the genital tract, with a chemical change of secretion, and the evolution of disease germs, are inimical to the implantation of an impregnated ovum in a healthy uterus; still, when there is vaginal inflammation, uterus, tubes and ovaries are likely to become implicated. Even in health, the vaginal secretion is slightly acid, more so if inflammation be present, which is unfavorable to the life of the spermatozoa: around the cervical canal in health the secretion is alkaline, a condition which may preserve the spermatozoa for several days. The slightest deviation from health changes that condition.

Many other conditions might be mentioned which give rise to sterility: in and in breeding; even consanguinity of temperament, indoor confinement.

The season of the year affects conception—it occurs more readily in spring and summer than in autumn or winter.

The quantity and quality of food affects conception. More children are born during years of plenty.

The middle station of life is most productive of a sound, healthy offspring than among the very poor or rich.

The most common causes of sterility in the female are: 1. Anomalies of the hymen or malformations of the genital tract. A very large vagina can also be a cause of sterility, as the sperma flows out immediately after coitus. 2. Vaginismus. 3. Excessive acid reaction of the vaginal mucus, which destroys the power of motion in the spermatozoa. 4. Narrow external or internal os, anteflexion, retroflection, endometritis, gonorrhea, especially with involvement of the adnexa, neoplasms. 5. Constitutional or microbic diseases, as tuberculosis, syphilis, chlorosis, and obesity.

In order to effect a cure the cause must be removed, and then a course of treatment pursued, calculated to revitalize the reproductive organs rigidly enforced.

Ozonized thyroid extract and protonuclein rouse up ovarian activity; avena, kephalin and c. p. solution of spermin supply elements for ovulation; and ambrosia orientalis, the prince of sexual evolution, is of undoubted value in its sphere of action.

STERILITY IN THE MALE.—Barrenness is equally common among males and females of all civilized nations and is a potent factor in the production of domestic infelicity and renders divorces very common. It is a state that must never be confounded with impotence, which indicates a physical inability on the part of the male to fulfill the functions of manhood.

With an increased civilization, with our intense struggle for existence, with the urgent necessities of the age sterility grows more common than most of us can imagine. We must not look entirely for the causes in the female, for in a very large percentage of cases the male is at fault—due generally to the presence of the germs of gonorrhea and syphilis, whose presence militates against conception, and to the early practice of self-abuse which is so common, nurtured and fostered by a certain class of literature.

Sterility and impotency are often associated together. They each, however, should be clearly defined, thus:

Impotency is a total incapacity for sexual intercourse; partial impotency, an inability for the proper performance of the sexual act.

Sterility is the want of power to procreate from any cause. They may be grouped together, although the term sterility is applied to both the male and the female; still it should not be confounded with impotence; which indicates a physical inability on the part of the male to fulfill the marital rights. Partial impotence is characterized by various stages, and the causes are not only numerous but diversified; although there is but little doubt that self-abuse in youth, with its deleterious consequences and aggravated forms of spermatorrhea, often causes impotence to develop itself in the prime of manhood, that is, between thirty-five and forty-five years of age. Unless spermatorrhea is properly cured it is bound to develop either impotency or sterility or both. Sexual excesses, too early inter-

course, too frequent, dalliance or withdrawal are grand sources of these maladies.

General neurasthenia, the presence of the syphilitic germ in the blood are also productive of it.

Impotency, impairment or blunting of sexual sensation and erectile power, is more common among middle-aged and older men than among the young.

Where latent or badly treated spermatorrhea exists it soon creates a chaotic state in which the losses and drains still existing rob the sexual or generative nerves and centres of almost every trace of strength or feeling.

There is no doubt that the wear and tear of a highly civilized state, with its shocks, jars or concussions, the intense struggle for existence directly cause impotency in middle-aged men without loss, or drain, or emission of the nervo-vital fluid; whereas in younger men seminal losses are the most common cause.

There are cases in which there appears to be no assignable cause but sexual weakness, in which sexual power rapidly fails and becomes completely gone with apparently no other disease present.

The acquired causes are numerous, as orchitis, due to kicks, blows, falls; the micrococci of mumps often invade the testicles; the gonococcus; the bacillus of syphilis—each or all give rise to inflammation, thickening, degeneration and atrophy of their glandular elements. Hernia, hydrocele, varicocele, tumors, cystic disease, anything which impairs nutrition of the testicle or body as a whole. Excess of all kinds, masturbation, withdrawal during ejaculation produce organic changes in the testes and sterility; abnormal methods of sexual intercourse, also coitus with courtesans, are destructive to the vital elements of being.

Nearly all microbes, which occasionally exist in the human blood, whether the factors of fevers or other maladies, affect the testes for the time being, by impairing the general health. Sterility due to excesses, withdrawal, masturbation and nervous disease generally is often only temporary, but may become permanent through organic changes, or it may simply give rise to a non-production of healthy spermatozoa which may be due to various interstitial deposits in the genital glands or tract.

Stricture of the urethra is a very common cause of sterility. When narrow and situated in the anterior portion of the

urethra, it obstructs the canal, both in micturition and in ejaculation of semen. In the latter it holds back the semen during erection, and when the organ becomes flaccid it gradually oozes out. If the stricture be situated well back a regurgitation of semen takes place into the bladder, and is passed when the urine is voided. When a slight stricture is present impregnation may be effected, provided the meatus urinarius comes in direct contact with the external os uteri.

It is doubtful whether we could suggest a more common cause of sterility than the use of cerebral stimulants—as the use of tobacco, opium or morphia; chloral, bromo-caffein, alcohol, arsenic, cocain, antipyrin, all the coal-tar derivatives. The continued use of any one of these medicaments, until an appetite is created, and then persisted in strikes at the origin of species, dries up the fountains of life, and is productive of barrenness and mental imbecility.

They affect both sexes in the same manner.

To effect a cure there must be both moral and physical restraint—daily baths, massages, best of food, and the substitution of some other stimulant, as ozonized coca et celerina, which should be given and gradually decreased, but administered long enough until the physical and moral nature is sufficiently recruited. Many men suffer from neurasthenia of the entire genitourinary organs, and are of a very erratic and excitable disposition; when in the presence of females have a leakage, or when about to gratify their sexual appetite are unable to control themselves, and have a premature emission, even before an entrance into the vagina is effected. Some nervously shattered even as soon as the limbs come in contact with those of a female.

Different neuroses of the genital tract may either retard or prevent orgasm. Spasmodic stricture may cause seminal regurgitation into the bladder. Generally those neurotic states are found in individuals who have practiced the secret vice of self-abuse, or who have been the victims of frequent and long-continued nocturnal emissions.

In all neurasthenic conditions the reflex centre governing the sexual act may lose its hold.

In forming a *prognosis* of any given case of sterility in the *male,* we must inquire into all congenital or acquired defects, imperfect development or absence of portions of the male genital tract, as obliteration of ducts from the testes to the urethra, whether any part be absent or undeveloped; whether

any condition exists which prevents the entrance of semen into the urethra; whether there be pressure of tumors upon the cord, causing occlusion of the ducts.

If either epispadias or hypospadias or urethral fistula exist, either of those states existing, obstructs or allows the semen to escape before it enters the vagina. At all events it may be deposited in the vagina, but fails to be ejaculated against the cervix. It must ever be borne in mind that obliteration of the ducts takes place in masturbators and in old age, often before the testes cease to generate spermatozoa.

The diagnosis of sterility must be made on various points, and with a correct knowledge of physiological laws, especially of the generative organs, and their function. The quantity and quality of the seminal fluid ejaculated at one coitus must be considered, as this depends on the brain, the diet, occupation—the size of the testes, habits, physical and mental condition of the individual. About two drams is the average quantity in a hale hearty man between twenty-five and fifty-five years of age, tenacious in quality, loaded with spermatozoa; but in individuals who have practiced masturbation it is often thin and watery, excessive in quantity and spermatozoa entirely absent (azoospermia); should there be no discharge (aspermia) it is useless to look for spermatozoa. Where either state is congenital it is very apt to be permanent; the acquired form is usually temporary. We should in all cases make a microscopical examination of the spermatic fluid. This is easily and best effected by permitting sexual intercourse to take place, the male participant wearing a condum, from which it can be obtained.

In making a diagnosis of the intricacies of sterility we must bear in mind that in order to accomplish impregnation three things are necessary: (1) the ovum of the female must have free passage to the uterus; (2) the semen must effect an entrance into the womb; (3) the semen must contain spermatozoa.

The history of the case will show whether there be any malformation or absence of the essential organs, or whether there be closure or displacement of the Fallopian tubes, arising from pelvic peritonitis with adhesions, or from a gonorrhea which has traveled up the uterus and tubes, rendering the covering of the ovary so thick that the ovum cannot escape, or so bound the fimbriated end of the tube that it cannot rise up to grasp it. These causes of barrenness are beyond reach. They are the

ones to which prostitutes owe their immunity from impregnation, though frequently the ova are not sufficiently healthy, as is often true in any woman affected with nervous debility. Obstacles to the entrance of the semen into the womb are more easily recognized. The most prominent of these are induration or cartilaginous neck, and a most prolific source of infecundity—a conical cervix.

The character, quantity and quality of the semen merits the closest scrutiny; it must be sufficient in quantity, properly ejaculated and contain abundance of healthy spermatozoa.

STERILITY AND SEXUAL IMPOTENCY.—We realize from the most rigid observation that there are locations in which certain maladies are indigenous. We have malarial sections, yellow fever zones, tubercular houses, domiciles in which the pneumococcus seasonably flourishes, areas in which the cancer neoplasm suffers evolution, certain states in which the brain yields immense intellectuality; in others, the outcome is feeble-mindedness, gaping idiocy; sections, nay, towns, some cities in which the entire male population suffers from sterility and sexual impotency.

Up to date this remarkable condition has not been explained.

Medical science endeavors to explain the pathological condition, according to the number of spermatozoa found in the semen. In doing this they recognize two conditions, *Oligozoospermia* and *Azoospermia*. In the former there is a diminution in the number of spermatozoa, while in the latter there is a total absence of the living germ.

The causes of *Oligozoospermia* (diminution of spermatozoa) are very various, sometimes congenital, present in old age and in nearly all libertines, or men who have coition with harlots.

More common causes are: the migration of the gonococcus and masturbation varicocele; the passage of the spermatozoa from the testicles to the seminal duct often become dwarfed, imperfect, scanty, either from partial obliteration or degeneration of the vas deferentia; from inflammatory states, epididymitis, the toxins of disease germs, especially syphilis, tubercle, typhoid. Bicycle exercise invariably brings about watery, infertile semen, and many others may cause either a diminution of spermatozoa, or their conversion into spermatic crystals, or their complete absence—the one condition may pass into the other, no semen.

Both conditions involve sterility. Sparsely secreted spermatozoa, when motionless, are dead; if they exhibit motion, there is usually some procreative power, but greatly diminished, with feeble erections.

As a general rule, oligozoôspermia comes on gradually, and runs into azoospermia.

The principal victims of both conditions are those who have masturbated, and have suffered from spermatorrhea, which if not promptly cured, the semen becomes watery, spermatozoa fail to appear. Precisely the same condition takes place in ill-treated gonorrhea.

Bloody, purulent semen may contain spermatozoa, diminished in number, motionless, and degenerated into spermatic crystals.

Unless there be some violent shock to the nervous system, some injury, azoospermia comes on gradually, progresses slowly, the spermatozoa diminishing in number gradually until impotency is established.

Although the intensity and frequency of any kind of testicular irritation is bad, such as the bicycle, it furnishes no rule for the occurrence and prevalence of azoospermia. It is even possible to have normal semen follow an attack of epididymitis, while on the other hand, a pain, an irritation of either testicle or spermatic cord may bring about azoospermia. Even the size and density of the testes tell us nothing. An examination of the semen in all cases is imperative.

Azoospermous men may have strong sexual passions, able to have coitus, and apparently discharge a seminal fluid, but it is non-fertilizing, a mere waste product, and consists mostly of epithelium from the seminal ducts, urethra and well-formed spermatic crystals.

Azoospermous semen not infrequently contains fatty granules, colloid masses, various spherical and ovoid particles with spermatic crystals, the elements of spermatic degeneration.

The chemical analysis of these crystals demonstrated that they are the product of degeneration, of dead spermatozoa, and invariably indicate sterility.

Semen which contains motionless spermatozoa are unfruitful. They never regain their mobility, even in the genital tract of a healthy female.

Such is a passing glance at a malady which is striking at the root of our existence as a nation and will eventually erase the name of some nations ere long from the geographical map.

Is sterility and sexual impotency a curable affection? We answer, Yes, provided there be no organic lesion of the brain and spinal cord, and the cause can be removed.

No cure can be effected if there be either sclerosis of brain or cord, or white softening, and neither can there be a cure unless the cause can be removed. This is a most essential point in treatment, a removal of causes. It would be unreasonable to expect a cure, if he either still frequents the abodes of harlots or commits masturbation, or rides a bicycle, or leads an immoral life.

Massage, seclusion, rest, overfeeding for six or eight weeks, or rather months together with a diet consisting chiefly of phosphates.

It is utterly impossible to lay down a course of treatment to be followed. A physician with a good degree of common sense, and the proper remedies, will soon catch the idea, once the remedies are presented to him.

Protonuclein as a suppository, thyroid extract orally.

Cacodylate of sodium is being tried, and receiving a thorough test.

At the initial treatment, if the digestive organs are in good condition, the c. p. solution of spermin might with some advantage be prescribed. In brain elements it is away ahead of all the hypophosphites ever made. This might be alternated with either kephalin granules or tincture of oats.

If the case needs a bitter tonic to stimulate the stomach and intestines to digestion and assimilation of food, then the comp. tincture of matricaria is the best of all remedies to prescribe as favorable to the evolution of spermatozoa.

In sexual impotency, with sterility, protonuclein suppositories possess germinal potentiality, cell originating, cell proliferating power, by what is termed leukocytosis; this is aided by nutritious blood feeding, which gives us a supply of rapidly forming nuclei, furnishes the leukocytes already in the blood the proper nutriment for their proliferation. In this, above all maladies, push protonuclein suppositories, whenever the organism is below a normal standard, as it rapidly restores the vitality of all the tissues by aiding and supporting assimilative nutrition.

The principal causes of these two conditions are masturbation, perversion of the sexual act, self-treatment of gonorrhea, etc.

The effects in all cases are an involuntary loss of semen in

the shape of diurnal and nocturnal losses, which naturally attract the attention of the affected individual, for which he seeks help, and if from a physician up to the times, he will prescribe ozonized extract of black willow internally, suppository and bougie.

A great many men suffering from prostration, nerve exhaustion, do not realize that they have loss of semen, simply feeling an invisible trickling, a mere moisture at the orifice of the urethra, a kind of oozing almost of the character of perspiration, or there may be a dribbling, and a slight mucous discharge, a mere drop that does escape, which nevertheless gives rise to vital deterioration.

The salix nigra bougie and suppository are the remedies, with matricaria for a tonic.

There is a brain phase of spermatorrhea produced by the loss of such a vitalizing secretion, and a reflex source of irritation by the act of masturbation—the brain deprived of this secretion becomes anemic, as is visible in the pallor of the face, indistinctness of vision, dilation of pupils, myopia or double vision, deafness, feebleness of voice, mental preoccupation, hebetude of mind, confusion of ideas, profound melancholy, indigestion, constipation; peculiar numb, aching or tingling sensations in hands, arms, legs, feet. In this cerebral phase of spermatorrhea and impotency, all leakages must be completely arrested with the black willow internally and salix nigra for suppository and bougie.

Then matricaria for an all-round tonic, ozonized thyroid extract, and protonuclein daily, with c. p. solution of spermin three times a day.

The best remedies to cure the impotency.

A man suffering from seminal leakages, the product of masturbation, should not marry till perfectly cured; even if his semen be fertile, the offspring will be ever ailing, never healthy, never strong, a blight.

STILL-BIRTH is a term used for a child apparently dead at birth. In this two degrees or stages of asphyxia are recognized, congestive or apoplectic, anemic or pale. Air hunger or a necessity of breathing is a requisite of life. So clear the air-passages of mucus or amniotic fluid, so as to facilitate the entrance of air into the lungs. Cleanse it with the finger wrapped in a handkerchief, then resort to the treatment of asphyxia (which see), friction with alcohol; hot and cold

baths, alternately; artificial respiration; cutting cord, let some blood escape; electricity; enemata of brandy and water, with one drop of one per cent solution of nitroglycerin, bearing in mind that an asphyxiated child must not be let alone until reanimation is perfect, which is indicated by its crying continuously and vigorously.

There has been no cases of still-birth reported in which the obstetric cones have been used to render labor painless, to abbreviate its duration.

STILLINGIA.—The roots of *Stillingia sylvatica.* Queen roots. Grows freely from Virginia to Florida, flowering in May and June. The root is the part used.

Therapeutic Uses.—This remedy may be classed third in the classifications of vegetable alteratives and bactericides: 1. Saxifraga; 2. Phytolassa; 3. Stillingia.

A good alterative, well adapted for mild cases of syphilis.

Preparations and Doses.—The compound syrup, made as follows: Rad. stillingia sylvatica, rad. corydalis formosa, rad. phytolacca decandria, rad. iris versicolor, cort. xanthoxylum fraxineum, fol. chimaphila umbellata, sem. cardamomum. The best preparation, in teaspoonful doses, every three hours.

STOMACH.—The importance of a thorough knowledge of diseases of the stomach cannot be overestimated. Innumerable aches and pains, formications, tingling, and numb sensations are caused by imperfect gastric digestion. The theory that the stomach is only a receptacle for the ingesta, and is not, strictly speaking, a digestive organ, has not been sustained by clinical and laboratory experience; while clinical experience testifies and laboratory experiments and observation demonstrate that many digestive disturbances originate in the stomach, and produce symptoms which frequently have been attributed to derangements of the nervous system. Many cases of headache, impaired memory, and inaptitude for thought and work occurring in merchants and other business men, are not due to overwork and brain exhaustion, as is frequently supposed, but are caused by imperfect digestion, resulting from eating when the stomach is tired. When one is engaged in hard physical or mental labor the blood flow to the stomach is decreased, and a proper amount of gastric juice is not elaborated, and the functions of motility and absorption are diminished. Under such circumstances, digestion must be changed.

Such patients may be benefited by taking only soup, beef tea, or milk for the noon meal. Sometimes biscuit or bread and butter may be allowed in addition. The large meal, or dinner, should not be taken until the day's work is done. Thus severer forms of disease, as functional dyspepsia and chronic gastritis, may be prevented.

STONE CROP VIRG.—Of great utility in catarrh of the stomach and bowels; almost identical with stone root and bayberry.

Of all remedies it is decidedly the best in all forms of ulceration of the bowels, especially when the rectum is implicated. It has a most extraordinary, vitalizing action upon all mucous membranes.

Dose: Fluid extract, 30 drops.

STRAINS.—A strain or sprain is a violent stretching of tendinous or ligamentous parts, with or without rupture of their fibres. It gives rise to severe pain, attended with faintness, great tumefaction in the part, with ecchymosis, with subsequent weakness and stiffness. If the part is not kept at rest; if the diet is very stimulating; if the blood is charged with disease germs; or if it is some large joint, like the knee, there may be inflammation, and even fever. The most essental element in a strain is rest; and then some remedy to penetrate down to the diseased part, such as we have in the aconite, belladonna, and chloroform, equal parts, or olive inunction followed by concentrated ozone.

STRICTURE.—As its name implies, is either a narrowing or contratction of a tube or canal, made up of circular muscular fibres, lined with a mucous membrane.

It may be the result of some irritation, some neuroses, or effusion of plastic lymph; hence the division into inflammatory, nervous and organic; the latter, being due to effusion of plastic lymph, is a permanent obstruction.

The principal locations of stricture are either the esophagus, rectum, urethra.

Stricture of the Esophagus may be due to the ingestion of irritant poisons—to irritation of the cervical nerves—to effusion of lymph which becomes organized.

The hurried drinking of beer and iced drinks call into requisition the circular muscular rings, which irritates and

gives rise to a low grade of irritation with effusion. The inflammatory and nervous varieties are usually promptly relieved with large doses of gelsemium and passiflora; repeated blistering of the cervical portion of the spine, with matricaria, avena, kephalin.

Bolus of papoid, 20 to 30 grains, repeated several times, have been successful in absorbing the effused organized lymph either on the rings, or thrown out longitudinally in masses; nourishment by enemata.

STRICRURE OF THE RECTUM.—An effusion of lymph either partially or completely around some of the circular muscular fibres of the rectum. This, the organic form. There may exist some sacral or coccygeal irritation or seat-worms, which may give rise to spasmodic contraction, but usually the real cause is septic ulceration.

The only correct treatment for organic stricture is by gradual dilatation and absorption, and digestion of the stricture with papoid and boroglycerid.

URETHRAL STRICTURE is the most common inflammatory, spasmodic, organic, all easily diagnosed by an inability of micturition and by the fact when the stream is started that it is either spiral, twisted, forked, split up, and when lymph is effused these symptoms are permanent. Besides the retention of one drop of prine behind the stricture keeps up a gluey discharge from the urethra, mistaken for spermatorrhea; productive of fistula.

Usually gelsemium and passiflora will cover all the indications of the two first, and by rendering the urine alkaline with bicarbonate of potassa, but these remedies avail as nothing in organic stricture. The following methods are employed, both in the urethra proper as well as the deep-seated urethra, each having their admirers. Urethrotomy, electrolysis, dilatation gradual, divulsion or forced dilatation, divulsion with retention of the sound or catheter and suppuration; absorption, laceration.

All these methods, except absorption with divulsion or suppuration, are almost always followed by a recurrence, but in suppuration and absorption we have the canal permanently restored—perfect reconstruction. Before any special plan of treatment is resorted to, it would be well to make sure of the diagnosis, as warts often originate in all portions of the urethra, giving rise to the identical symptoms of effused lymph. Oil of thuja internally and insert in the urethra daily for a week will solve the problem.

One essential feature: all treatment, whichever be adopted, is to avoid all irritation, so as to obviate all the bad effects of confined urine.

The rapidity and permanency of a cure of every case of organic stricture is the desideratum of the age—organic stricture, one in which lymph is either effused longitudinally or vertically across the base of some portion of the urethra—the effective absorption of this organized lymph, or permanent stricture, in the shortest possible time.

In any plan that may be adopted improve general health; keep bowels open; cleanse out the urethra daily, by irrigation, by first inserting a reflex catheter well up to the prostate or even into the bladder, then attaching this to a half-gallon fountain syringe filled with a warm solution of ozonized boroglycerid. After this has passed through, fill the catheter with a ten per cent solution of cocain, which is permitted to remain about ten minutes. Then we insert Holt's dilator, and thoroughly dilate the structure or organized lymph to its utmost capacity, retaining the instrument in its place for fifteen minutes; then, upon its withdrawal, insert an ozonized iodol bougie, which is to be retained and permitted to dissolve. The iodol is a very rapid absorbent, painless, but most effective. All this must be accomplished without undue force, and the reverse current catheter used in all cases to wash away the *debris*.

It can be repeated daily, in most cases, until a change is effected. In this way the most stubborn strictures can be absorbed, even cartilaginous degeneration will disappear in a wonderful short space of time.

An essential part of this treatment is the introduction of the cocain solution, as it obviates all tendency to inflammatory action.

My experience with this treatment has been most satisfactory indeed.

Burning, cutting, laceration, most likely recurrence, gradual absorption usually effective.

SUICIDE.—As might be expected, self-destruction is less frequent in childhood than at any other age. The commonest period is from forty to fifty years. Females are less prone to self-destruction than males, but this is less marked in childhood than at a later age. The proportion of female to male suicides under sixteen years of age in the whole population is less by one-half; but taking 1,000 male and 1,000 female sui-

cides under sixteen, the proportion is greater with females by one-third. It is at present increasing in frequency. The ratio, however, shows female precocity. Child suicide is increasing. But what undoubtedly causes many cases now is overpressure in education, while the education itself produces precocious development of the reflective faculties, of vanity, and of the desires. During the last few years there have been several cases of children killing themselves because unable to perform school tasks.

A very important pathological discovery has recently been made, in cases of suicidal mania, namely, that the typical fissures of thought are almost entirely obliterated, and a general atrophy of the cineritious portion of the brain has taken place, clearly demonstrating the disease of self-destruction is a mental act, due to cerebral wreckage. The condition is identical with the brain of an habitual masturbator, or one who practices a perversion of the sexual act. Indeed, every case of suicide is associated with or dependent on either a sexual basis, or failure, or self-indulgence in some way. The mental irregularity is due to sexual chaos—the internal testicular secretion being cut off.

A man who attempts to destroy his existence is not sane, neither is his judgment sound.

This morbid condition is amenable to treatment, whether expressed or implied. Place him upon ozonized thyroid extract, once or twice daily, for some months, and administer c. p. solution of spermin, thrice daily.

These two remedies in some mysterious manner completely overcome the suicidal tendency and bring about a healthy equilibrium. The same remedies are efficacious in all conditions of arrested development, retarded evolution, idiocy, imbecility.

SULPHONAL.—In doses of from 30 to 45 grains, is a safe and reliable hypnotic free from all deleterious effects. As it is somewhat insoluble, it is a good plan to spread it on a piece of bread and butter; better still, dissolve in boiling water, keep stirring till cool enough to swallow. It is a remarkable bactericide, having a special affinity for the microbe of neurasthenia, hence its positive efficacy in the insomnia of the insane or neurotic; in old age; in organic cerebral lesions; in delirium tremens; in pernicious anemia. It is a much safer remedy than chloral hydrate, paraldehyde, amylene hydrate. If used in

pulmonary tuberculosis, smaller doses at bedtime arrest the sweats and procure most refreshing sleep.

SULPHUR, GLYCERITE, OZONIZED.—This combination of sulphur, ozone and cassia, possesses very remarkable energetic germicidal properties, so much so that it is very destructive to all classes of disease germs, besides being of great efficacy as a remedy to aid in the formation of the blood, an active agent in cell life.

It is therefore indicated in diphtheria, whooping-cough, cerebrospinal meningitis, smallpox, scarlet fever, erysipelas, rheumatism, etc., whenever disease germs are present in the vitiated secretions of the body.

Thus most excellent results are obtained from it in all diseases of the blood, even in malaria, syphilis, cancer; when all remedies prove insufficient, they decidedly improve under this. Alternated with Chian turpentine mistura, it is most effective in cancer. Spraying the throat with peroxide of hydrogen, and pushing the administration of glycerite of sulphur.

Directions for Use.—Dose: From one-half to one teaspoonful to be taken every hour or more frequent. The dose varies with the age of the patient and the intensity of germ development. As microbes are killed off or sterilized, which will be known by the amelioration of symptoms, the size and frequency of dose should be gradually less.

SULPHUR WATER, OZONIZED.—Sulphur, next to ozone, is the most widely diffused of all germicides, and when placed in or on the living tissues of the body, a most powerful germicidal action is developed, which destroys and inhibits the evolution of all microbes. An excellent remedy for both internal and local use, has a destructive effect upon all microscopic life, annihilates all germs, besides having a powerfully stimulating effect on the tissues with which it comes in contact.

The combination of ozone and sulphur, designated sulphur water ozonized, is a germicide of immense power, with a very wide sphere of action, of sufficient intensity and quality to either destroy or influence prejudicially all microbic growth.

Besides being the greatest scavenger in animated nature, it acts as a vitalizing tonic to the individual into whose body it is introduced. The action exerted by the sulphur and ozone is peculiarly restorative.

As a local remedy, ozonized sulphur water should be diluted one-half or even more with either water or glycerin or both, and

applied either by means of cloths or compresses, saturated with the same, and kept moist. These placed in contact with incised wounds renders the part sterile as far as all organisms are concerned.

It is a most effective antiseptic lotion for ulcers, fistulas, and of very great benefit in necrosis and tuberculosis of bones.

In all cutaneous affections, whether parasitical or cryptogamous its action cannot be excelled. Most efficient results are obtained by its use in acne, eczema, scabies, and all varieties of tinea.

Administered internally ozonized sulphur water should be diluted one-fourth or more with water before entering the living tissues of the body, where it is inimical to microscopic life, prevents fermentative changes indispensable to the evolution of the sarcinæ ventriculi in the stomach and bowels, hence it is curative in gastric and intestinal catarrh (sarcinæ ventriculi); in typhoid fever and scarlet, smallpox, measles, epidemic influenza, hay fever, cancer, because when this ozonized sulphur water, even in small doses, oft-repeated, is placed within the living tissue of the body, it results in the development of a germicidal agent and antitoxin of sufficient power and quantity to destroy the germ and neutralize its toxin, so morbid action ceases.

As an illustration of its efficiency and power, we see its never-failing influences on the streptococcus of diphtheria, destroying the germ, neutralizing its toxin. The trouble has been with the profession, in not pushing and holding on with tenacity to the sulphur treatment.

The ozonized glycerite of sulphur is better adapted for administration to children, hence best for diphtheria.

By all careful observers the glycerite of sulphur is one of our valuable aids in the cure of cancerous affections.

SUMBUL, OZONIZED EXTRACT (*Musk Root*).—A native of Central Asia, which has been before the profession for thirty years, and found to be a tonic and stimulant to the nervous system. Its peculiar therapeutic value resides in a resinous substance which is extracted from the root, and which is incompatible with all other agents. This resinoid is quite volatile and can only be preserved in an ozonized extract, all other preparations usually found in the drug stores being worthless conglomerations.

This then is the latest and most elegant preparation, and it

is exceedingly valuable to aid a renewal of life in parts influenced by cerebrospinal nerves controls spasms, insomnia, tremor, want of co-ordination, such as we have it in chorea and epilepsy; it may be accepted as a rule that all painful and spasmodic affections are promptly relieved by its exhibition.

It is extensively used in sanitariums for the cure of habits.

Delirium tremens is a toxical condition induced by the use of alcohol; the poison in all cases must be discarded, and sumbul substituted, so as to stay the excessive and prolonged waste of nervous energy—to arrest the tremor, the restlessness, the expenditure of nerve energy.

In asylum practice, we have many auxiliary aids, as the warm bath, followed by massage; the Turkish bath with its hot and cold showers, with brisk friction.

When the ozonized sumbul extract is given, no narcotics, either orally or hypodermically, need be used, for after the bowels are moved, and he gets his sumbul, he will sleep, hallucinations and delusions will pass away.

Irritative poisons lie at the origin of all cases of delirium tremens; hence the importance of free elimination, by skin, kidneys, bowels, and when this is established, hot, easily assimilable liquid foods are required. The best of all tonics to administer to aid recuperation is one kephalin granule every four hours with food.

The old treatment with ammonia, chloral hydrate, capsicum, bromide of potassa, opium, digitalis, and the long list of coal-tar derivatives, are dangerous, and should not be used in delirium tremens.

SUN-STROKE.—A condition of cerebral exhaustion with evaporation of the watery constituents of the blood.

Its diagnosis is: A person exposed to the solar rays, or an overheated building, complaining of headache, insomnia, irritable, restless, face flushed, eyes congested, bowels constipated —these followed by a sudden seizure of vertigo, headache more intense, dimness of vision, failure of muscular power, falls to the ground, insensibility, breathing stertorous, pupils contracted, skin intensely hot. Pulse and temperature very high, later weaker and irregular. There may be convulsions, with coma, or exhaustion, or syncope; patient may die without premonitory symptoms. In some cases there is stupidity, in others stricken down, insensible.

We have been always led to believe that the etiology of sunstroke was due to the effects of dry, intense solar heat, caus-

ing an evaporation of the serum of the blood—giving rise to embolism of that fluid and a perfect coagulation in the capillaries and sinuses of the brain, the spleen, liver, kidneys, heart and large vessels, and that tepid water and the salts of potassa orally, by enema, and by bathing and massage were the cure.

Very recently it has been discovered that owing to the physical and mental exhaustion invariably present a specific micro-organism, found in the soil of all tropical countries enters the body, and being of rapid growth, excretes its toxins, which give rise to the vertigo, the prostration, the extreme pallor of the surface, embarrassed breathing, cardiac paralysis.

This micro-organism is found in the superficial layer of the earth, in the street dust, and is either inhaled into the lungs or ingested into the alimentary canal, where it produces a most virulent toxin, which is rapidly diffused through the blood-stream and gives rise to all the symptoms of the disease.

During the prostrating effects of solar heat during these few past summers, when the mortality was quite great, the superheated air treatment was tried with excellent results.

In the management of such cases the patient should be removed at once to a cool room, and placed in a recumbent position near an open window; the clothes are then stripped off and a stream of tepid water from a vessel held about four or five inches above the patient, directed first on the head, then on the chest and abdomen, and finally on the extremities, and thus alternating from one part to another until consciousness returns. Cloths wrung out of warm water over the spine are beneficial. Internal medication: Bromide of ammonium is most efficient; when the patient is unable to swallow, it can be given by injections. In mild cases from 5 to 10 grains may be given at intervals of from half an hour to one hour, until the grave symptoms disappear.

In more severe forms from 10 to 30 grains may be given every half hour. When the pulse becomes weak or intermittent, stimulants are needed. Stimulants should be resorted to in all cases where exhaustion is the prominent feature. Brandy and milk, or brandy with ammonia, must be introduced into the stomach, or rectum. In all cases in which the skin is cold, the cold douche must not be employed.

SUPRARENAL CAPSULES.—It has been recently demonstrated that disease of the suprarenal capsules, or what some term Addison's disease, is due almost entirely to an infiltration

of those glands with the tubercular bacilli. This disease germ, once deosited in the suprarenal capsules, grows and goes through its different stages of growth and degeneration, causing chronic interstitial inflammation and fibrocaseous and calcareous metamorphosis. In the early stage of the disease the capsules become enlarged from the presence or aggregation of the bacilli. These germs generally localize in the centre of the gland, grow and breed outwards, usurping its entire structure; as it reaches the cortex, cheesy and calcareous degeneration commences in the centre. This change is uniform. In rare cases the bacilli are deposited in points or nodules in the glands, which gives it a lobulated appearance; whichever it may be, their proper structure is entirely obliterated, no sign of gland structure is left; on a cut section it appears yellow. The structure and functions of the suprarenal capsules are the same as the lymphatics, pink marrow and mesenteric glands.

The lesions of the nerve centres of the suprarenal capsules and great sympathetic account for the phenomenal pigmentation and discoloration of the skin. The spleen is enlarged and softened; the liver, kidneys, lungs, stomach, intestines, spinal cord and brain are dotted over with tubercle; even the testes and prostate are implicated.

The blood is anemic, fibrin diminished, red discs altered in size and form, and does not run together as normal corpuscles, owing to the lymph spaces being crowded with tubercle; the white globules are increased in number. Lurking deep in the vital stamina there is great poverty of nerve force, a paralytic state of the vasomotor fibres of the great sympathetic, and, as a consequence, the blood is imperfectly and unequally distributed.

In addition to the discoloration or bronzing of the skin, we have the characteristic features—anemia, general languor or debility, with extreme prostration, expressed by a loss of muscular power, weakness of pulse, remarkable feebleness of the heart's action, breathlessness upon the slightest exertion, dimness of vision, functional weakness and irritability of the stomach. The progress of the disease is very slow; melancholia is not uncommon; drowsy, dreamy languor, dizziness, and syncope not infrequent. Heart failure predominates all through; anemic murmurs are heard as the disease advances, the skin becomes lustrous bronze, and the mucous membrane of the lips and gums are strongly pigmented. Sight and memory fail; convulsions and choreic symptoms, followed by de-

lirium or comatose state. The urine is normal in quantity, albuminous; uric acid, coloring matter and indicum are in excess.

In eighty per cent. of all cases tuberculosis of the most intense character is present. It is regarded as an infectious blood disease, more especially common among males in the adult period of life, and is found associated with cancer, apoplexy, and waxy and fatty degeneration of glands. Numerous cases have recently been discovered in which there was no tubercular infiltration of the suprarenal capsules at all.

As the tubercular diathesis is so intense, the germs block up all the important blood-raising glands; it has generally been regarded as incurable.

All remedial measures, up to the present time, have been inoperative. Accepting the theory—a disease of nervous bankruptcy, with intense tubercular growth—positive benefit, at least a great prolongation of life, results from the use of germicidal remedies, and a tonic treatment, nutritious diet, the avoidance of everything that would debilitate, with rest in the recumbent posture, and the avoidance of all insanitary states. Glycerite of ozone, in twenty-drop doses, has been found a most efficacious remedy; alternating with either the glycerite of kephalin or tincture of oats, to which quinine and tincture of ignatia has been added. The stimulation of the cervical sympathetic with concentrated ozone, with general faradization of that nerve, are important factors in the treatment.

SURGICAL FEVER.—Since the introduction and use of anesthetics in all surgical procedures and operations, this fever has very nearly disappeared. When it does occur there is languor, lassitude, debility; pain in the head, back and calves of the legs; rigors, and a fever of a continued type.

When the patient is irritable, restless, feverish, sleepless, and the injury is to a nerve or vein, it is called irritative; when it occurs in paroxysms, like ague fits, which condition seems to be associated or dependent upon operations upon organs contained within the cavity of the pelvis, it is termed intermittent; if the vital forces are very low, urine copious and of a low specific gravity, with a morbidly clean tongue, flush on cheeks, burning in the palms of the hands and the soles of the feet, with profuse sweats, it is termed hectic; if the powers of life are still lower, we may have that degradation of normal bioplasm, the bacillus of typhoid.

The treatment of these different types of surgical fever must be upon general principles. The circulation must be controlled effectively with arterial sedatives and echinacea. We must enforce hygiene and nursing, supporting the patient carefully, and well watching and guarding all complications as they arise.

1. In the simple form, rest, veratrum, aconite, bathing, nourishment, etc.

2. If of an irritative type, passiflora and gelsemium.

3. If intermittent, comp. tincture of kurchicin; Warburg's tincture.

4. If a condition of hectic supervenes, stimulants, tonics, nourishment, aromatic sulphuric acid and quinine.

5. If typhoid symptoms, treat same as typhoid fever.

In all cases of surgical fever, the grand point is to blunt the impressibility of the nerve centres; in this manner the severity of the fever is greatly mitigated. It is therefore of great importance to administer anodynes and arterial sedatives freely. A constructive or building-up treatment is of essential importance, and the general principles as laid down under the head of fever rigidly enforced; especially bathing, rest, and a free use of antiseptics.

SURGICAL PROCEDURES (*An Epitome*).—INCISIONS.—In their variety and application constitute a large portion of operative surgery. Common instruments used are the bistoury and scissors. Some operations require special instruments.

Positions of the Bistoury.—1. As a pen. 2. As a pen, edge upwards. 3. As a carving knife. 4. As a carving knife, edge up. 5. As a fiddle bow.

The Position of the Scissors.—The last phalanx of the thumb passed through the upper ring, the phalanx of the ring finger through the lower, the index and middle fingers placed in front, under the lower handle, the little finger free.

Before using any instrument upon a living being it should be warmed to a temperature of 80 degrees F.

Incisions are made in two different ways, from the skin to deep parts, and from deep parts to the skin.

Incisions through the skin are ordinary incisions; those under the skin subcutaneous incisions.

Whatever the method may be, the incision may follow five different directions: 1. To the operator. 2. From the operator. 3. To the right. 4. To the left. 5. From above downwards.

As far as practicable, incisions should be made in the axis of the limbs, parallel to nerves and blood vessels. In making incisions, extend the skin, and make it its full length and depth at one stroke.

A simple incision is a single cut; compound incisions consist of more than one, are very varied, but embrace the following as principals: **V** and **T**; crucial, **X**; elliptical, ⌒ and in the form of a crescent.

They are subject to the following rules: All branches of a compound incision should be made as a simple incision; when one incision falls upon another, the second should always terminate in the first, and never begin from it. When two incisions have to be made, one above the other, the lowest should be made first, so that the blood should not conceal the situation of the first.

Incisions from within, outward, are made with the bistoury, with or without the director; without the director, the incision may be made in various ways. With the director, the usual method is to puncture, introduce the director right up to where the incision should terminate, then place the point of the bistoury in its groove, holding the instrument in the second position, at an angle of forty-five degrees, then pass it to the end of the director, cutting as it goes, then raise it perpendicularly and bring it out at the same moment as the director.

Subcutaneous incisions are made with the bistoury or tendon knife, or any special instrument. The character of these incisions is their smallness, valvular nature, exclusion of air; little, if any, degradation of normal living matter into germs, consequently no suppuration. Excellent for division of tendons. The knife is inserted flat, underneath a tendon; when inserted turn its cutting edge up, divide tendon, withdraw, and hermetically seal up.

Dissections are made of incisions. A puncture is merely first part of an incision, but punctures are often made for special purposes, as for vaccination, exploration, etc., and are usually performed by bistoury, trocar, lancet, exploring needle.

CAUTERIZATION.—By this term is meant the application of a caustic to a part, whose life and organization we wish to destroy. These remedies are either liquid or solid; pultaceous or powdered.

Conservative surgery lays down the following rules for their application:

1. Wipe all humidities from the surface.

2. Protect all adjacent parts with adhesive plaster or gutta-percha and chloroform.

3. Apply caustic; if any blood exudes during the application, wipe it away.

4. After cauterization is complete, neutralize the action of the caustic.

The most valuable caustics are: The actual (the iron heated to a white heat), mineral and vegetable acids; caustic potassa and soda; chloride of chromium; chromic acid; chloride and sulphate zinc, etc.

LIGATION.—This consists in applying a ligature to a part to strangulate and divide it—cut off its circulation, procure a separation, either by immediate constriction, or sloughing, or otherwise.

The nature of a ligature varies—several strands of saddler's silk; gold, silver or platinum wire; catgut, thread, etc.

Rules to observe in ligation:

1. Choose a ligature strong enough.
2. Include only a moderate amount of tissue in ligature.
3. Never include skin, if possible, in a ligature.

After it is applied for the removal of a part, there are three modes of procedure:

1. Immediate constriction by ecraseur.
2. Continued constriction by ecraseur or ligation.
3. Progressive constriction.

The first attempts at constriction are painful, but, as it progresses, the parts lose their sensibility, as well as their vitality. If it is a tumor, as the ligature tightens, it swells, enlarges, becomes livid, black.

The following precautions are to be observed in the application of all ligatures:

1. Tighten carefully and gradually.

2. If tissues are soft, easily torn, do not strangulate at once, as a quick division is attended with hemorrhage.

3. If tumor be hard, difficult to penetrate, carry on constriction gradually.

4. If any nervous symptoms supervene, as convulsions, spasms, loosen ligature until they subside.

HEMORRHAGE.—This is an escape of blood from the vessel or vessels in which it is contained.

The method of arresting consists in ligation, compression by fingers, compress, tourniquet, winch, or acupressure, that is, the insertion of needles under vessel so as to compress it and

obtain union of internal coats of vessel—they should be inserted at least one an a half inches from the wound, on the cardiac side of vessel; styptics, elevation, bandages, when it is a general oozing in.

Styptics.—Bleeding from small vessels can be checked by ice applied to bleeding surface; by Monsell's solution of iron, by tannic and gallic acid, matico, alum, iron alum.

Torsion.—Is suitable for small vessels, seize them and make three or four sharp turns.

Urethral Hemorrhage.—Try cold, introduce No. 12 catheter and apply compression by bandage. Give gelsemium in large doses.

Rectal Hemorrhage.—Introduce suppositories of perchloride of iron.

Uterine Hemorrhage.—Try the ordinary means, such as injections of hot water, elevation, rest, bandage, digitalis, turpentine and sulphuric acid internally; all these failing, plug the vagina.

WOUNDS AND SUTURES.—Wounds heal by either primary or secondary union. Union by first intention is obtained as follows:

1. Arresting hemorrhage.
2. By removal of all foreign bodies, as pieces of dirt, clots.
3. By bringing edges into close apposition and holding them by sutures, aided with adhesive strips, bandages, compresses, antiseptic dressing; circulation, 75.

For the purpose of keeping them in perfect approximation until effused lymph unites them, "sutures," of which there are four varieties:

1. Interrupted suture.
2. Glover's suture. Used only to unite intestinal wounds and post-mortem.
3. Quilled suture. Used only in ruptured perineum.
4. Suture by needles, or button hole, simply a form of the interrupted. Observe the following rules in applying sutures: Wound cleaned; hemorrhage arrested; edges brought together neatly and evenly, without dragging. The first suture, as a rule, should be inserted into the middle of the wound. Sutures inserted at an angle of forty-five degrees penetrate deep enough so as to leave no space for the collection of pus. Avoid pricking nerves, blood-vessels and tendons; if suppuration is beared (union by second intention), a space at the most depending part should be left open so as to permit the escape of pus.

The distance between sutures will vary.

Incised wounds are made by clean-cutting, sharp instruments. There are four indications in their treatment: 1. Arrest hemorrhage; 2. Remove foreign bodies; 3. Bring edges together, and 4. Hold them by sutures, compresses. Dress with antiseptics.

Dissection wounds should be well immersed in hot water, encourage free bleeding, then cauterize, dress with antiseptics.

Punctured wounds are esteemed the most dangerous, from their depth, implicating blood-vessels and nerves; viscera torn; laceration of nerves more liable to tetanus.

Contusions, or bruises, inflicted by some blunt instrument, ecchymosis liable to occur; apply arnica, marigold.

Sprains.—Rest, bandage, irrigation, arnica.

EXTERNAL STIMULANTS.—Designed to promote a renewal of life, as cantharides, sinaplasms, irritating plasters, acupuncturator, dry cups, baths, massage, etc.

FRACTURE.—A break of bone.

There is a predisposition in the bones of some individuals to break, from a deficiency of certain normal materials, usually the result of mercurial saturation, systemic syphilis and the like.

The exciting causes of fracture are mechanical violence, muscular action.

This violence may be direct, the bone giving way at point struck: it may be indirect, bone giving way between two opposing forces. Fractures are either simple or compound, complete or incomplete—transverse, oblique, longitudinal, comminuted.

The essential symptoms of fracture are crepitus, preternatural mobility, deformity. In addition there may be ecchymosis, pain, heat, redness, swelling, but none of the latter are essential.

There are fractures in which neither crepitus, preternatural mobility nor deformity exists, as in fracture of the base of the skull, caused by falling from a height on feet.

In simple fracture, bone only broken; in compound fracture not only is the bone broken, but it has penetrated through muscles, blood-vessels, nerves and skin.

There are four indications in the treatment of all fractures:

Place the bones in their natural position (set the fracture).

Place the limb, in order to do that, in such a position as will relax all the muscles.

Retain it in such a position—

By an appropriate dressing apparatus—anything that will rigidly fulfill those indications.

Health must be maintained at as high a standard as possible, and there must be no pain in the fractured parts.

If these indications are perfectly carried out, there is effused by nature from the marrow, bone, periosteum and all the adjacent tissues lymph, which becomes organized and unites the ends of the bones. This lymph, at the end of six weeks, becomes firm enough to grasp the ends of the bones together, but it requires four months and a half more, making six months altogether, before the bones are firmly knit together.

This lymph that is effused for the purpose of union is called a provisional callus. Nature effuses this the moment she recovers from the shock, and continues to throw it out for about ten or twelve days, when the process of consolidation, union and absorption takes place. At the end of six months not a vestige of it remains.

There are cases of fracture in which the standard of health is above the average—the four indications of treatment perfect—where the broken bones will unite by first intention, without the formation of this provisional callus.

Old age, feeble vital force, shattered manhood, blood and bone charged or loaded with mercury, germs of syphilis, cancer, bacilli of tubercule, etc., are conditions in which the provisional callus will not become bone, but ligament, where a non-union or false joint takes place—a state in which, in spite of all friction or stimulation, a process of interstitial absorption and degeneration takes place in the broken ends of the bone.

As it is contrary to the provisions of nature, bony union never, except very rarely, takes place within joints. There are many reasons assigned for that, as defective nutrition, character of structure. Neither does bony union take place in flat bones, bones destitute of an epiphysis.

In spite of the most rigid antiseptic precautions, there are three things that render compound fractures more dangerous than simple ones: The shock; the danger of laceration of nerves and blood-vessels; the risk of long, tedious suppuration attendant upon bone exposed to the atmospheric germs. With seventy-five per cent of our population suffering from the bacilli of tubercle, fifty per cent from sytemic syphilis, and about six per cent cancer germ, surgeons should be cautious in their prognosis of fracture.

HERNIA.—One man out of every eight in the United

States suffers either from a predisposition to or from actual rupture, the escape of the bowel from its natural cavity.

The predisposing cause is some weakness or defect—a want of proper support. The exciting causes are lifting, hoisting, jumping, coughing, straining.

If it occurs at the navel, it is called umbilical. If occurring where the testis has descended, inguinal. If where the large blood-vessel escapes, femoral.

When the viscus protrudes, it forms a tumor or swelling, which dilates when the patient coughs, diminishes or disappears when he lies down.

This protrusion or sac consists of bowel or omentum, one or both, and it may be reducible or irreducible or strangulated. The method of reduction is by manual operation, technically called the taxis.

In performing the taxis the patient must be profoundly relaxed, by either the administration of comp. lobelia, or ether or chloroform. There must be an assistant in all cases, to knead the abdomen well to the diaphragm. Then the tumor or sac should be well drawn forward in the axis of its neck and the bowel returned into the abdomen and held there by compress or truss, and the Mexican ointment kept constantly applied till orifice is obliterated.

RETENTION OF URINE.—*From Stricture.*—Put the patient in a warm bath in which an infusion of lobelia has been poured, inject the rectum with same infusion; while in the bath, insert a catheter, a No. 12 if possible. If once inserted, retain it there for ten days. If it cannot be passed, try a smaller one, and proceed with it gradually until the urethra is of normal size.

From Enlarged Prostate.—Proceed in the same method, using cocain suppositories to procure absorption.

CIRCUMCISION.—Slit the foreskin in centre to the corona; turn back and turn it all round, except the bridle; unite the skin and mucous membrane by numerous fine lead-wire sutures. Dress with lime-water and tincture of iodine. In infants this procedure is unnecessary, a simple slit being all that is required.

GANGLION.—Insert a strand of several threads of saddler's silk, withdraw one every morning, apply a lotion of boroglycerid. Compression, painting with iodine or other borotants useless.

TREPANNING.—If there is already a scalp wound enlarge

it; if not, shave the scalp and make U-shaped incision down to the bone and peel back periosteum with the flap of the scalp. Avoid regions of longitudinal and transverse sinuses and also the middle meningeal artery. Adjust the trephine so that the pin shall project beyond the teeth. If there be a fracture, place the teeth on the firm edge of the bone. In working, press evenly on all sides. After penetrating a short distance withdraw the pin into the crown of the trephine. As dura mater is approached proceed gently, and frequently probe with a piece of quill, obliquely sharpened to a point. As soon as dura mater is detected, tilt the trephine to the other side. When loose enough remove the disc of bone with elevator.

HARELIP.—The best time to operate is about three months before dentition. Roll the child in a sheet, to be held in assistant's lap. Pare the edges of the cleft thoroughly. Remove enough, especially from the apex. Coapt edges, insert two or three harelip pins, enter one-quarter of an inch from fissure, pass deeply two-thirds from anterior surface; after all are inserted, seam with hairlip sutures. Cut off sharp edges of pins. Place a piece of lint underneath them. The conditions of union will tell when pins are to be removed.

NAEVUS.—Capillary nævi, best treated by painting them over with nitric acid or perchloride of iron.

INTUSSUSCEPTION.—Place the patient under anesthetic; inject large quantities of warm water, peroxide of hydrogen and olive oil into the bowels.

THORACENTESIS.—When effusion in the chest is great with impending suffocation, insert the needle of aspiration or the trocar and cannula between the fifth and sixth ribs, two-thirds the distance from the spinous process of vertebræ; if trocar is used, rotate it gently until it penetrates the pleura and the serum appears on the fingers, then withdraw the cannula and allow serum to flow out.

PARACENTESIS ABDOMINIS.—*In ascites, abdominal dropsy,* to remove fluid by operation. Bladder and bowels empty, patient sitting in a chair with a flannel bandage, so slit up into tails that it can be held and tightened by two assistants. Two and a half inches below the umbilicus in the median line, either insert the aspirator or the ordinary trocar; if the latter, insert with a rotary movement until the serum oozes through the cannula, then withdraw cannula. Continue until the entire fluid is drained off, the two assistants using compression with bandage. When all the fluid is drained off, apply a piece of adhesive

plaster over the wound, then give patient opium, and to overcome inertia of the bowels give large dose of the solid ext. hyoscyamus with castor oil. Guard against peritonitis.

SYNOVIA.—All the joints of the human body are simply so many hinges upon which the bones move, are finely lined with a soft, velvety membrane which, during sleep, secretes a bland fluid for lubrication. This lining tissue is termed a synovial membrane, and its secretion synovia. This secretion depends greatly on the vitality of the individual; if vital force be low, secretion is scanty, defective; if there be good vital stamina, the secretion is usually so abundant as to increase the stature about one inch in the morning. In masturbation, in men who commit excesses, drain off the nervo-vital fluid, the secretion is so scanty that the joints crack; tie up a joint, there is no demand; secretion is arrested; in old age, degenerative changes; no secretion of any amount; it is expended by healthy exercise during waking hours.

ACUTE SYNOVITIS is produced by both local and constitutional causes; the former are blows, strains, mechanical injuries, and especially penetrating wounds; the latter are exposure to cold, rheumatic gout, syphilitic and mercurial poisons.

Symptoms.—In the most acute form the symptoms are very severe, namely, high fever, delirium, violent aching pain in the joint, aggravated by the slightest motion; great swelling, occurring soon after the pain; redness and tenderness of skin.

The swelling is peculiar, and distinctive of the disease. It is occasioned by the rapid effusion of fluid into the synovial cavity, and consequently if the joint is superficial it fluctuates freely. It is always most prominent at the point where the joint is least covered by ligament, and consequently it alters the shape of the joint. When the knee is affected, it pushes the patella forward, and there is great swelling on each side of it, with general fullness of the surrounding parts. The limb cannot be moved without giving rise to the most excruciating pain.

The synovial membrane when suffering inflammation becomes extremely vascular, red, rough, tender; granulations are very liable to form.

Treatment.—Rest to the irritated, weakened joint; it should be kept perfectly motionless; this is indispensable to success. Keep it in a paraffin splint; dry heat, with hop, bran, chamo-

mile flowers, or other light bodies during the day, and some stimulating ointment during the night. Bowels opened with salines; aconite, veratrum, etc., for fever; if due to mercury, iodide of potassa; if gout, phosphate of quinine; if rheumatism, glycerite of wintergreen and uric acid solvent. Pain in all cases to be relieved; general alteratives and tonics.

CHRONIC INFLAMMATION OF THE SYNOVIAL MEMBRANE OF A JOINT has the same causes and presents the same general features as the acute. There is no fever, but the pain is often severe, grinding, excruciating, with a sense of weakness and relaxation. The swelling is great, indolent, and the tissues around the joint are thickened, gristly, and the swelling loses its softness and fluctuation. It is very apt to give rise to pulpy degeneration of the membrane, with ulceration of the cartilage and destruction of joint.

Treatment.—The points here are to reduce the inflammation, correct the morbid state of the blood that gave rise to it, and get rid of the effusion and thickening, and restore the parts to their proper use. The skin, kidneys, bowels, and appetite to be attended to; a general alterative and tonic course prescribed; all pain removed from joint by stimulants. If swelling is great, it is a good plan—saves nature an immense amount of labor—to remove fluid from the joint by aspiration. There is no possible danger in perforating the joint with a small trocar and draining off. The great danger in any form of chronic synovitis is thickening of the joint. To stave this off, the calcareous matter of the body must be kept in a most soluble condition, for it is apt to mingle with the effused lymph and form a species of ankylosis. To effect this glycerite of kephalin should be administered in distilled water twice daily. Carbonate of lime exists in all water; distillation eliminates this agent. Keep the earthy salts soluble; facilitates their excretion, prevents their deposit. Distilled, even boiled, water, with kephalin added, exercises a most vitalizing and prophylactic action in synovitis, or in absence of that lubricant.

SYPHILIS.—Syphilis, due to the ingress of the venereal bacillus in the blood, its evolution and growth in that life-giving fluid. The germ may enter the body by many channels, by close contact, by drinking-cups, by bedclothes, by slight cracks or abrasions anywhere. It is not essential for its evolution and growth that it form a pack or colony. Once in the body, its growth, spore formation, ptomain excretion, depends

entirely upon the status of vital force of the individual into whom the microbe has passed. If the vital force be low, germ breeds actively and selects weakened parts in which it forms colonies or aggregations. If it is normal its evolution may be retarded; it may lie dormant for years, or all through life, if vital force be maintained.

Its presence in the body, if vital force be high, is difficult to recognize, for the microbe is latent; but if vital force be low, the germ is active, then it is recognized by the following landmarks: general languor, lassitude, debility, nocturnal pains; when the electrical forces of the atmosphere are lowered at night, enlargement of the post-cervical glands of the neck, pain in the sternum; if the microbe appears in the skin, it loses its sensibility over the eruption and becomes copper-colored; if upon the mucous membrane of the mouth, copper-colored with round, scooped-out ulcers; if upon the bone, periostitis with nodes. If the lungs are weak the microbe will excite symptoms analogous to pulmonary tuberculosis; so with the brain, bronchi, hair and nail matrices, liver, kidneys.

A microscopical examination will settle all doubts; place a little of the discharge from any sore in the field of the glass, from the mouth, skin, or a drop of blood, then it will show very minute rods; usually two or more ovoid points are visible in the course of the rod, which are spores. In the blood they are seen imbedded in the interior of the nucleated cells.

This microbe is pathogenic of systemic syphilis. It bears cultivation, and cultures injected into all red-blooded animals produce the disease.

The ptomain excreted from the syphilitic germs are peculiarly toxical.

The entire range of medical science has been revolutionized by the discovery of the syphilitic microbe.

Syphilis, like tuberculosis, is a pre-eminently contagious and infectious disease.

Once the germ enters the body, in either man or woman, it produces grave, often permanent, tissue changes, and if not eradicated, there is an absolute certainty that it will infect the offspring, either by direct transmission of the pathogenic microbe, or through the medium of the infected ovum, or spermatozoa.

In the semen of a syphilitic man, we see microscopically a spore or grub attacking the parent cell; these spores often develop, causing the spermatozoa to become infertile.

Children born from parents who never took a proper course of treatment to kill the germ and neutralize the toxin have typical characteristics. Usually during the first six weeks of existence the original pock of the parents appears on the skin; the child is ill-nourished, dwarfed in its very form and essence, possesses recognized indications of the presence of the microbe in the headache, epilepsy, paresis, locomotor ataxia, which are becoming so common.

Now that the theory of syphilis has been definitely settled, fixed beyond all doubt, it behooves every individual who has had either a gonorrhea, a specific sore upon the genitals, or elsewhere—or had a suspicious illicit connection, or been sleeping with a contaminated bed-fellow, to take a three months' course of treatment of ozonized comp. saxifraga and periodate of gold. A faithfully carried out course of these two germicides will annihilate every syphilitic germ in the blood, sweep the spores from the germinal cells, and completely rejuvenate the whole body.

The microbe of syphilis does not differ in its mode of attack from other disease germs, attacking the strong as well as the weak, the debilitated succumbing to it more readily—devitalized organs being its habitat—the copper stain on skin, mucous membrane, brain or bone-marrow, its toxin.

One loading up of the system with this microbe does not render the soil unfit for another and another—no horse serum of any potency has any effect here—none has even an inhibitory action upon its growth.

One-half of the heterogeneous population of America have the microbe of syphilis lurking in their pink marrow, and are the breeding stock of all forms of nervous diseases.

Such a population needs saxifraga and periodate of gold.

The germ theory of syphilis is incontrovertible, for its microbe can be isolated, cultivated; cultures injected into animals will produce the disease.

It is a microbe of slow growth, unless the patient's vitality is low, when it grows rapidly. Its complications and pathological conditions are much modified by the toxins excreted; these suggest the exhibition of a potent germicide to either neutralize or depress, or kill the vitality of the microbe so as to reduce its toxin-forming power, allowing phagocytes more easily to encapsulate and destroy them.

But in killing the germ, or antidoting its toxin, we must always be careful never to lower the vitality of the patient.

Ozonized compound saxifraga alternated with the periodate of gold, when administered destroys the germ, extinguishes microbic growth; breaks up and eliminates the toxins—even moves the chemotaxic irritant which causes the germ to be revealed.

The method of treatment by saxifraga and periodate of gold has many advantages. It gives us total destrustion of the spore formation.

TRANSMISSIBILITY OF THE MICROBE OF SYPHILIS.—Since the discovery of the bacillus of syphilis, a complete change has taken place in the minds of all medical men on the subject.

A man possessing and maintaining a high grade of vital force may hold the syphilitic germ (if he has been so unfortunate as to have it) latent or dormant in his blood and, although in apparent vigorous health, transmit it to his offspring, the intensity or weakness of the transmitted taint corresponding to the degree of vital force. It is therefore incumbent upon men who have been indiscreet, or had congress with a courtesan, that before marriage, if he assumes that onerous responsibility, he undergo a four months' treatment to expunge or exterminate the microbes from his blood. A child may inherit syphilis from either one or the other parent; it is impossible to determine from whom most of the microbes are derived—most probably the mother.

In the process of transmission typical types of the disease are delineated, the original pock on the skin and mucous membrane, stomatitis, interstitial corneitis, which have no parallel; deafness is common in inherited cases. The pegged, notched teeth are also significant.

All germicides, if administered properly, bear upon the death and extermination of germs, upon wiping out the microbe of syphilis from the blood and tissues. As an antisyphilitic germicide, never failing in its action, comp. syrup of saxifraga stands unrivaled. Its action upon the syphilitic germ is utter annihilation. Its action is greatly aided by administration of a few grains of the periodate aurum every other day, and a good tonic, either sulphate of quinine or comp. tincture matricaria.

The ingress of the pathogenic microbe of syphilis into the human body has been chiefly effected in sexual congress, but very recently numerous cases have appeared in which the mouth and pharynx have been the seat of ingress.

It is now of common occurrence, and much more frequently met with in women than in men.

One woman, with mouth syphilis, is a dangerous element in our midst. She may be to all intents and purposes a saint, but her contaminating kiss may affect thousands.

The great increase of syphilitic affections is not entirely due to congress with courtesans, but much of it to modern methods. Very many cases are contracted from drinking-vessels in parks and restaurants; from towels, razors and clipping appliances in barber-shops; from sleeping upon couches, beds, once used by the contaminated. Syphilitic eye affections from hired opera-glasses used by the victims. Every washerwoman is saturated with the germs, which enter her body by the nails and mouth.

This sounds strange, yet it is all true, for a human body loaded up, no matter how, with the microbe of syphilis, will communicate them by contagion and infection. To talk of stages is sheer nonsense. The germ will enter if brought in contact with it, and when it enters the blood it is to be found in its aggregations in the weakened tissues or organs, whose vitality has been impaired.

From causes which are unnecessary to enumerate, the American man possesses a feeble heart, one whose vitality is lowered; consequently we find in the large proportion of cases of heart failure, unendurable, agonizing cardiac pain, angina pectoris, syncopial or epileptic seizures, smothering, that there is syphilitic disease of the heart-walls, gummata or general fibroid changes.

Gummata of the left ventricle is most common. Even when this exists of very small size, it gives rise to defective or embarrassed action and danger to life.

Very much of the heart trouble of the present day is due to the presence of syphilitic germs in the blood lodging upon the walls of the heart, its entrance being unknown to its host.

Seeing modern society is so thoroughly drenched with the syphilitic microbe, it would be well to place our entire adult population upon a three months' course of ozonized comp. saxifraga, to continue this annually during their terrestial existence, so as to efface this germ from the solids and fluids of their bodies.

Saxifraga is the best drug in the materia medica for this purpose. Inimical to the syphilitic germ, but tonic and strengthening to the heart-mscle. There is no better remedy when the microbe is located in that region.

Whenever the bacillus of syphilis enters the blood, either

by a chancre or by close contact, or otherwise, its future depends altogether upon the status of the vital force of the individual. If vital force be good, the bacillus may remain latent and pass to the offspring or wife; if vital force be shattered, lowered, the bacillus may make its appearance in some weakened gland, organ, tissue or patch simultaneously with the inoculation, or a few months later on.

Although it has been clearly demonstrated that the germ is a true pathogenic microbe, still the profession in all parts of the world have failed to present a perfect microbicide that would completely annihilate and sterilize it under all conditions, periodide aurum, various preparations of mercury and iodide potassa, soda, lime, saxifraga, phytolacca, etc., cannot be called specifics.

The peroxide of hydrogen is highly esteemed as an antisyphilitic; it holds an intermediate action between iodide of potassa and protiodide of mercury, but it possesses great advantage over both; it has no after-effects, very actively destroys the germs, and eliminates them from the body by stimulating the entire glandular system; operates well in alternation with the chloride of gold and platinum or the sulphide of lime.

TESTES.—Acute inflammation of the testes is often produced by injury; from the depressing effects of cold, wet, there is apt to arise, if the microbes of rheumatism or mumps be present in the blood, a migration of these germs to the weakened testicle.

The testes suffering a partial death or inflammation, present all the symptoms of that state, pain, heat, redness, swelling, but on account of the denseness of their covering they are unable to swell to any great extent, but become excessively painful.

This inflammation rarely terminates in effusion of lymph and suppuration, because as fast as it is effused it is removed by numerous lymphatics; nevertheless, the inflammation invariably damages the secreting faculty of the gland, and it is extremely likely to take on subsequently atrophy. In very broken-down subjects we often find abscess and rarely gangrene.

Chronic orchitis is most likely to result, even from very mild forms, and is invariably accompanied with inflammation of the epididymis. Inflammation of the epididymis is almost invariably the result of some irritation in the urethra.

Inflammation of the urethra is most likely to cause epididymitis, and the one is likely to aggravate the other. The gonococcus is the most frequent and common cause of urethritis as well as epididymitis.

The epididymitis, which so frequently appears during a gonorrhea, is due to the micrococcus migrating backwards; the affection of the epididymis is the result of the germ passing from the prostate urethra to the common ejaculatory ducts, and thence along the vas deferentia.

In acute epididymitis we have all the symptoms of inflammation with fever; the symptoms are severe, much pain, great heat and swelling, which extends to the spermatic cord and testes. In such cases the inflammatory condition spreads widely, involving the tunica vaginalis, which results in effusion of serum and hydrocele. So in the acute form the scrotum often becomes enormously distended.

Wasting of the substance of the testes, with partial or complete destruction of their secretive faculty, is very comon, and is generally caused by masturbation, perversion of the sexual act, excesses, bicycle exercise, sedentary habits, varicocele and other forms of local damage; gonorrhea, the ptomains of syphilis, blows on the head, brain tension, exhaustion of the spinal cord and brain—indeed, anything that will impede their circulation may cause a shrinkage. It may occur at any age, but most common after puberty.

In wasting they become small in size, pale in color, soft in texture, cold and non-elastic. In all cases the secretion contained in the seminiferous ducts become devoid of spermatic granules and spermatozoa.

The effects of wasting are analogous to castration—a blight is thrown over the entire reproductive system; there is a derangement; the entire body is out of gear; effeminacy stamps itself upon every tissue, every act, every evolution; degeneracy sets in; the voice loses its masculine tone; the beard falls off; he becomes ambitionless; moping; melancholic; the mind suffers, droops; intellect becomes chaotic.

It would, therefore, appear that normal testes, with a secretion and absorption of vitalized semen, make the man, the nation; it imparts a value and importance to all things human. What means have the medical profession at their command to arrest this national malady?

The removal of many of the causes enumerated is impracticable, such as injuries to the vital organs, chronic cases of vari-

cocele, but masturbation, perversion of the sexual act, bicycle exercise, admit of removal.

Masturbation can be radically cured by the administration of the tincture of the green root of gelsemium; spermatorrhea, or a weeping penis, by salix nigra orally, by suppository and bougie; varicocele, difficult to eradicate, but often yields to ambrosia orientalis, orally, by suppository and bougie, with bathing with witch-hazel and mechanical support; complete impotency and sterility by matricaria, protoneuclein, c. p. solution of spermin, that vitalized brain elixir, which stimulates the growth of all glands, besides being an active brain pabulum. If there be a mother-cell left in the testes, there is hope of a cure upon these remedies.

TETANUS, MICROBE OF (*Garden Earth*).—Inoculation of garden earth, spring or fall, into any mammalia induces tetanus. And the bacilli found in their blood is identical with that found in man.

The diagnosis of the disease as seen in man, the history of the case, even if carefully examined, shows nothing, for a wound, a scratch, an abrasion, into which garden earth enters, may not exist, as the microbe can be carried by towels or clothing which have accidentally fallen on the ground, through slight abrasions. The spasm of the vountary muscles begin ning at the jaws (trismus); or involving the muscles of the front part of the body (emprosthotonos); or the muscles of the side (pleurosthotonos); or the muscles of the back, patient resting on occiput and heels (opisthotonos); intellect clear, corrugations of the muscles of the brow, all in a state of chronic contraction.

A microscopical examination of the blood shows that it contains rods very fine, like thread-worms, mostly collected in irregular masses, with characteristic spore formation.

The germ bears culture well in beef broth—growing stronger—more vigorous after each culture. These cultures injected into animals reproduce the original disease, the germ is therefore both contagious and infectious; it has a definite period of incubation and activity, depending upon the vital force of the individual inoculated. Active symptoms appearing twenty-four, forty-eight, seventy-two hours after an abrasion rarely survive over the fifth day; but if it is from nine to thirteen days in appearing, much more hopeful. Highly contagious and infectious. The habitat of the germ is the blood,

but its ptomain excretion or alkaliodal tetanin poison is spent upon the medulla oblongata. Some clainm, where much garden earth enters, that the integrity of the medulla may be destroyed before the germ really has time to form spores in the blood.

The present theory of the origin of tetanus, then, is that the bacillus derived from garden earth is localized at the point of inoculation—that a ptomain poison is generated at that spot, which is absorbed in the blood, giving rise to the muscular contractions characteristic of the disease—the medulla is irritated, patches of congestion visible on the cord; the microbe becomes very virulent in the blood, affecting chiefly the motor nerves and voluntary muscles, giving rise to prolonged tetanic action, commencing in the jaw, back of the neck and extending to all the muscles of the body. Spasms are of a toxic nature, as the disease advances succeed each other, with slight intermission, and near the close, as life ebbs out, fever, frequent respirations and pulse rate. It is a true pathogenic microbe, which has the medulla oblongata for its centre.

First of all we must have a body whose vitality is weakened, and an irritation in or external to the body, such as a lacerated wound, some damage done to a sensitive sensient nerve,—the thrust of a rusty nail, an injury slight in itself, but whose force is spent upon tissues whose vitality is lowered.

The incubation of this germ is of very brief duration, as is seen in its toxin giving rise to increased nerve excitation.

Tincture of lobelia; tincture of capsicum; tincture of xanthoxylum; tincture of American valerian, of each two ounces; mix. Dose: Teaspoonful after teaspoonful to be given at short intervals. Every two hours ten grains periodate aurum should be administered.

THALLIN.—Very powerful antiseptic; lowers heat, pulse, respiration, more eectually than antipyrin or kairin. Makes an abortive injection in gonorrhea, destroying the germ in all cases. Dose, four to ten grains every three hours.

The sulphate and tartrate kills all microbes; one-half per cent solution destroys the gonococci of gonorrhea.

Thallin is an ingredient of the Chian turpentine mistura, which has effected such marvelous results in the cure of cancers. Its presence intensifies its microbicide properties immensely.

Remarkably successful in the eradication and destruction of the gonococcus, in the form of a thallin bougie: first, urethra

washed out with the ozonized distillation of eucalyptus several times daily, and a thallin bougie inserted on retiring and retained until dissolved, at any stage, acute or chronic, the only essential condition being that gonococci exists in the discharge.

In all cases the micrococci entirely disappear from the urethra. It is best to continue treatment for a few weeks at least.

Drawing conclusions from clinical cases, we strongly indorse the thallin bougies as one of our best therapeutic applications. Its use causes the rapid disappearance of the gonococcus without any irritation and no complication of any kind.

THROAT.—Inflammation of the mucous membrane of the throat, more or less extensive, is an affection common in children in some parts of the year. The severity of the trouble varies from simple sore throat to most serious types of disease. Its causes may depend upon various conditions. Improper clothing, exposure to cold, wetting of the feet, exposure to draughts, especially of the back part of the neck, or confinement in poorly ventilated rooms, are among the predisposing causes. In the severe forms of throat trouble, however, the presence of a specific germ is necessary to bring about the condition.

In simple sore throat the affection is usually ushered in by a slight fever, attended with headache and pain and itching in the throat, which may extend to the ears. Sometimes the temperature is as high as 103. The constitutional disturbance in children is quite marked, and the hearing is frequently affected. Upon examination it will be seen that the mucous membrane of the throat presents a congested appearance. The pain suffered by the little one is sometimes quite severe. The treatment best adapted to relieve this condition is the application of fomentations to the throat, followed by cold compresses, or even an ice-bag. The pain is greatly relieved by the gargling of hot water or hot saline or boracic acid solution. Frequently the holding of bits of ice in the mouth will control the inflammation even better than the hot applications internally. We have found in our own experience that alternating the use of ice and hot water by gargling gives the best results. Next most common to simple sore throat, we find little ones suffering from attacks of tonsillitis. This may be simple superficial

inflammation of the tonsils, or it may assume the follicular variety, which is attended by more severe constitutional symptoms. The causes are much the same as those cited as producing simple inflammation, although the probabilities are strong that in this case the presence of a germ of a more or less virulent character is responsible for the severe suffering attendant upon this condition. The constitutional symptoms are very marked. There will be severe pain in the head and limbs; also the patient complains of suffering in the back, chilly sensations, attended by considerable rise of temperature, often reaching 104 or 105, which continues for four or five days; a great deal of pain in the throat, aggravated by an attempt to swallow.

Sometimes the tonsils are swollen to such an extent that it is almost impossible to swallow, and even respiration is interfered with. There will be deafness, due to pressure upon the Eustachian tubes. If the little one complains of roaring in the ears, it may be well to give special attention to these organs, as it is not infrequent that inflammation of the middle ear attends this disease. It is noticeable that tonsillitis occurs most frequently in places where the atmosphere is rendered impure by defective drainage and where the drinking-water is contaminated, and it is no doubt true that the specific germ is often conveyed from one person to another.

Prevention is better than cure. Parents should observe following rules, the observance of which will obviate many attacks of serious illness, and often, we believe, life will be spared thereby:

"1. As to very young children and infants:

"(*a*) Make it a rule that no one shall kiss the baby or child, and to this rule not even the dearest friend should form an exception.

"(*b*) If the child be old enough to understand, this should be impressed upon its little mind; it will soon become a rule with it not to kiss.

"(*c*) No one of the immediate family should kiss the child upon the lips; the cheek is the proper place therefor.

"(*d*) The greatest care must be exercised by all persons having the care of children as to the cleanliness of their own person, especially of the hands (the finger-nails) and of the mouth and throat.

"(*e*) No cloths must be used about the infant's mouth or nose that are not especially kept for that purpose (no hand-

kerchiefs that have been used by adults, carried in pockets, used as dust, rags, etc.).

"2. Older children:

"(*a*) They must be taught not to kiss other children.

"(*b*) Not to take bites from the sweetstuff of other children, nor to allow other children to take bites from theirs; a piece may be broken off and generosity and kindliness thus shown, but under no condition must a bite be allowed.

"(*c*) Coming in from school or play, the child's hands should be well cleansed (with soap and water) before articles of food are taken hold of.

"(*d*) Children should be taught (and this can be done with children from two and a half or three years and onwards) to gargle twice daily, on rising in the morning and on retiring at night, with a solution of boroglycerid.

"The cleansing of the mouth and throat at night, just before going to bed, is of the greatest importance; one reason, and a very important one, is that at night the bacteria are not liable to dislocation, to be washed away, as throughout the day, and can therefore work their mischief better."

It is also true that there is a predisposition to attacks of tonsilitis in children of rheumatic parentage; indeed, all throat troubles are more frequent in persons having this tendency.

Concerning the treatment for this trouble, it is better that the child be confined to bed, and that it partake of a very light diet, as soups, milk, eggs, gruel, or milk toast. The bowels should be caused to act freely. The application of cold compresses to the throat is particularly efficacious for this form of throat disease. The use of the ice-bag, when it can be obtained, is even better than the simple cold compress. If the compress must be depended upon, it should be frequently changed, in order that it may be kept cold. The effect of the cold is more marked if it is alternated with heat every two or three hours, in the form of fomentations, which should be applied as hot as can be borne, but continued only a short time —not longer than fifteen or twenty minutes, then the cold should be resumed. In case suppuration takes place in the tonsils, as is the case in quinsy, when it is found that the inflammation cannot be aborted by the use of the cold, heat should be applied continuously, to hasten the process. Sometimes the vapor from an ordinary kettle filled with hot water or lime water, to which has been added benzoin, paregoric, hops, or carbolic acid, is very soothing.

It is well, where there are several children in the family, to isolate the patient. This caution is especially important in that form of tonsillitis in which there are small white points on the throat. Even though it is not diphtheritic in character, we have known it to affect, successively, nearly all the children of a family.

SORE THROAT.—This may depend on cold, or some simple irritation, but most generally mercury, syphilis, tuberculosis, smallpox, the microbes of pneumonia and bronchitis, scarlet fever, foul air or sewer gas. In all forms the breath is germ laden.

The case must be treated according to cause. Tonics and alteratives, gargles of chlorate of potassa and tannic acid; solutions of boroglycerid, or resorcin; hydrastis and borax. Every possible means to improve the general health, and insanitary surroundings.

The mouth and nasal passages terminate in the fauces, a hotbed of disease germs. What is termed sore throat is a morbid condition of the mucous membrane of the fauces, follicles and glands, scattered over its surface. Sore throats are common from changes of temperature, disease germs, perverted nutrition; each attack weakens, affords a liability to recurrence, induces chronicity, with tickling, dryness, difficulty of deglutition; granulations stud the membrane, it becomes rough, uneven, irregular in patches; when mucous follicles of the larnyx are involved, huskiness of voice.

Just at this point the ozonized oil of thuja is a sovereign remedy; administer it internally, it does good service; paint the oil over the fauces, and use it as a spray, the granulations peel off; sore throat disappears. Just here it is worthy of a trial.

THYMOL.—A stearoptene contained in *Thymus vulgaris*.

Therapeutic Use.—An excellent bactericide.

Preparations and Doses. Thermolodyne, an efficacious germicide. Each fluidram contains one-sixteenth of a grain of thymol; one-eighth of a grain of carbolic acid. With boroglycerid, 10 grains; benzoic acid, 5 grains; syrup of Tolu, 1 dram. Mix. Give at a dose.

Solution of thymol for spray: thymol jelly to disinfect the hands; pastils; ointment.

THYROID.—The expressed juice of the thyroid gland of the finest-selected young lambs, preserved by negative ozone, is one of the most valuable remedies in the materia medica. Its use as a medicinal agent has been attended with the most brilliant and striking results, and made a decided impression upon the minds of all true physicians and philanthropists.

The important discovery that myxedema, sporadic cretinism, gaping idiocy, feeble-mindedness, imbecility and a very large percentage of cases of insanity were developed simply by a partial deficiency, or entire absence, of this secretion in the human body.

These important deductions were made, that if this gland was blighted or removed some of these morbid conditions or others similar in kind would put in an appearance.

The results obtained from the administration of the ozonized thyroid-gland extract, in these and many other analogous states, attest the vast importance of this agent.

The juice of the thyroid gland is one of the most important secretions in the body, and plays an important part in the development and growth of every tissue, gland and organ. It is a potent remedy, having immense, prodigious power in constructing, building up the human body. Its energizing effects are great, far reaching, for it renews mental as well as physical activity, makes the mind active, restores memory, retards the approach of age.

Administer from five to fifteen drops daily of this thyroid extract to a myxedematous patient; the metabolism of the body increases in a most remarkable manner, bodily weight diminishes, the appetite improves, the consumption of food increases, temperature rises, facial expression becomes normal, all the apathy and the stupid expression passes off. The patient so changes, that recognition by old friends is even difficult.

Sporadic cretinism, idiocy, feeble-mindedness, the outcome of alcoholic conception, is simply a form of myxedema. When the dwarfed idiot becomes the subject of thyroid medication, the results are startling in the extreme. Children who have ceased to grow in stature for years rapidly respond to the remedy, and the mental capacity brightens as the body develops —that is, when the individual is under twenty-one years of age.

In the large majority of cases of insanity it acts well, and when actively persevered with completely eradicates the defect —on the borderland, not insane, not imbecile, but unable to

hold their own in the battle of life, but fall into vice by reason of weak intellect, the remedy does well in experienced hands, with an organized effort.

Nearly all the school-boys that are termed dull, stupid by their teacher possess the germ of genius latent, which our present system does not develop; but give him thyroid extract, its evolution is sure.

Thyroid extract is an important element of growth of every organ in the body—administered to the young, bony growth is rapid; it is an unexcelled remedy in ununited fractures. It promotes brain growth, as is seen in the vivacity of thought, brilliancy of the eye, elasticity of the step, retentiveness of the memory, growth of the hair. All who take this extract of thyroid have a luxuriant growth of hair upon the scalp which before looked like polished ivory.

To obtain these results, small doses, kept up at regular intervals of time—never administer carelessly. Once a decided effect is produced upon the condition, a few drops every other day, once or twice a week, just sufficient to maintain a healthy condition.

Thyroid extract excites, rouses into action every gland in the body, promotes a free secretion—it is the greatest and safest of all galactagogues—it has a splendid effect in all those hitherto chronic and often incurable cutaneous affections, such as lepra and psoriasis.

Thyroid feeding has been recommended as a cure for obesity, the present age.

The lamb extract is a remedy of great power, highly efficacious in reducing weight—its primary action is to increase all the vital elements of the body; its secondary action is to annihilate and eliminate all the non-vital. Adipose tissue, being a non-vital element, is removed. The highest degree of life obtainable is where all non-vital elements are obliterated.

In its use watch the condition of the heart very carefully, and use only the ozonized extract of the lamb's thyroid—never the dried, shredded or tablets. Never use the bogus, the so-called active principle termed iodothyrin, or thyrocol. Such preparations are not creditable to the scientific status of

THYROID EXTRACT, OZONIZED.—Myxedema, sporadic cretinism, feeble-mindedness, idiocy, nervous diseases, loss of memory, physical deformity, phrenal softening, which

have received so much attention by the leading physicians of the present age, point to the conclusion that profound changes in the whole body take place and are associated with either an absence or atrophy of the whole thyroid gland.

Continued, never-failing success attends the exhibition of this extract in the treatment of the above diseases, and of all others in which a failure of the vital forces is present, in all of which a renewal of life is indicated.

Such success attends the use of the remedy that it will doubtless extend the sphere of its usefulness.

The administration of the thyroid extract prevents race deterioration and decay. This is well illustrated in its administration in cases of obesity. Nearly all cases of feeble-mindedness, myxedema, cretinism, idiocy, are characterized by stoutness and hebetude of mind. After taking thyroid extract, they show a marked decrease of weight and intellectual brightening. It is an excellent remedy for obesity, as it acts on the neurotrophic and vasomotor systems, increasing their force, regulating the amount of blood sent to each glandular organ, powerfully affecting the secretion of bile and pancreatic juice, and thus stimulating the metabolic functions of the body. Increased activity of secretion means less adipose tissue.

The first dose of the ozonized thyroid extract relieves the heaviness, the oppressed breathing, the clouded brain, the slowness of thought and action which are the characteristics of the stout.

Thyroid extract has been thoroughly tested in insanity, and the value of this treatment has been demonstrated to be immense in the mental affections due to myxedema. The value of the thyroid extract in all forms of insanity associated with goitre is most striking.

In mania, the thyroid operates as a rebuilder of vital tissue.

To the raving mania of the masturbator, it acts well, but its action must be strengthened by large doses of green root tincture of gelsemium and c. p. solution of spermin.

The exhibition of thyroid extract is attended with excellent results in complete alopecia areata, causing a profuse sprouting of hair on the scalp and eyebrows.

With thyroid extract and c. p. solution of spermin, the most remarkable advances have been made in the cure of all pathological conditions.

Xcellent authority of the present day think that goitre, and the class of mental diseases dependent on it, may be due to an

infecting agent acting on the thyroid gland, the nervous system, or both, and elaborated in the patient's own body—that it might be due to a toxic neuritis of the medulla oblongata and adjacent structures. This may or may not be the case, but nothing can efface the wonderful results obtained in mental wreck by the use of the thyroid. The glycerin extract is the best form.

The ozonized glycerin extract of the thyroid gland is a preparation that has performed some most remarkable cures in chronic, hopeless and incurable cases, especially in restoring mental, sexual and physical vigor.

We have now isolated the active principle "thyroidin," from fresh and carefully selected glands, and put it up in the form of compressed tablets, a most elegant and effective form of administration. These tablets, from their shape and size, are easily swallowed, disintegrate quickly and are taken without difficulty. Each tablet equals ten drops of the extract.

Whatever be the function served by thyroid secretion in the animal economy, whether it aids in the evolution or originating of the organic cell, or in blood formation, proteid metabolism, or whether it supplements the action of other glands in promoting growth, overcoming atrophy, congenital deficiency and feeble-mindedness, whatever it may be, it is a remedy of marvelous power, as a constructor, a builder, a restorer of general nutrition, especially of the cerebral pulp.

The administration of the ozonized thyroid extract in myxedema, cutaneous diseases, epilepsy, paralysis, gaping idiocy, and all mental defects, marks an era in the progress of medicine—being most efficacious in all diseases, but especially in those in which either a physical or mental defect exists.

There is a profound alteration in the nutrition of every tissue by thyroid feeding. A change is set up in the character of the nutritive changes of the blood and in the infusion of nervous energy.

This remedy is of unusual interest to the American nation, because our shores are the dumping ground of the lowest elements of European degradation, squalor, vice, drunkenness, and licentiousness. From this class, according to the census of 1890, there were over 100,000 idiots, lost and neglected; blighting the homes of thousands.

Thyroid feeding will overcome all this, wipe out the microbe-laden brains, and overcome the beastly propensities, and substitute intellectuality. The action of thyroid extract

is greatly aided by either c. p. solution of spermin or kephalin. The thyroid extract, the originator of growth of all normal tissue, is a remedy unexcelled in its action.

As puberty approaches, and growth becomes complete, the well-developed testes make the man, and the well-nourished ovaries the woman.

Careful analysis of the ovarian and testicle secretion shows that they are chemically identical in composition. C_2 H_5 N thus corresponds to the c. p. solution of spermin.

The ovarian and spermatic secretions are presided over by the sympathetic nervous system, upon which depends the performance of all vital functions, consequently both ovaries and testicles are largely influenced by emotions, desires, affections, passions, and they in turn are influenced by them, so that fear, anger, joy, sorrow are capable of arresting this function.

In order, therefore, to maintain the harmonious action of the whole organism of both sexes, it is necessary that both testes and ovaries should have full development and functional activity. These organs and their secretion are essential to the well-being of the individual, for when they happen to become either disused or damaged or exhausted, they exercise a potent influence in wrecking the brain and nervous system.

The use of spermin, therefore, in the treatment of all deviations from health, in all states in which a want of vitality exists, especially in the reproductive glands of both sexes, is an imperative necessity.

It is a remedy which is indicated whenever the powers of life are feeble—in prostration; in sexual frigidity; in impotence and sterility.

Whatever other functions may be subserved by the thyroid secretion in the animal economy, whether in blood formation, proteid metabolism, or as supplementing the action of other organs, we cannot now doubt that all its more important functions are due to a secretion, which can be separated, though not as yet in a pure state. This is abundantly shown by thefact that the symptoms and deleterious results of atrophy, congenital deficiency, or removal can be averted or cured by a substance chemically separated, and introduced by the stomach. This fact, if it threw no other light on the physiology of the thyroid, serves to abolish all the theories grounded on the view that it acts by the removal of a poisonous substance from the blood, or by transforming mucin into "colloid" within the gland. True, it does not prove that no such action is exerted

by the substance within the blood or tissues, but it minimizes the previous observations as to the accumulation of mucin, etc., in the blood as explaining any part of the pathology of myxedema. And if, as seem probable, the essential constituent of the secretion should prove to be of the nature of a ferment, the usefulness of the colloid material will also be negatived.

TIN OLEATE.—For reedy finger-nails; makes them smooth and gives them a high polish. Local; apply several times a day, but chiefly at night.

TIRED EYES.—The eyes, although merely an optical instrument, by and through which the brain sees the external world, are in themselves liable to suffer from exhaustion and their nerve supply exhausted.

It is not so much overwork of the seeing apparatus that causes sympathetic nervous disease, as a weakened and congested condition of the brain centre, the organ of perception. A diseased state of this part of the brain is sure to affect the pneumogastric and spinal accessory nerves, and through them the workings of various organs.

Thinking will tire the eyes, especially when the imagination is excited, almost as much, if not more, than their prolonged use on near work. A diseased state of any of the sensory organs will increase the susceptibility of the ocular apparatus.

In ocular neurasthenia, where the eyes are diverting and consuming more nerve force than can be spared to them, and the patient is nervous and debilitated as a consequence, do not put on glasses to encourage him to go on working an overtired organ by relieving the pain of nature's protest, but tell him to cease using his eyes intellectually for a time, to stop thinking, and avoid all mental activity as far as possible.

Go to the sea- or lake-shore, or, barring that, to some long, level stretch of country, where the eye can reach out over a vast expanse of blue water or green turf, beautiful and still, resting unteased by rapidly moving objects, which call for constant efforts at accommodation.

Day-dreaming in a breezy atmosphere is the best tonic for tired eyes and minds. It provides for organic recuperation, and a storing up of fresh supplies of nervous energy.

Glasses are useful where there are actual errors of vision, but they are too often prescribed for eyes which are tired be-

cause the brain centre is exhausted. In such cases it is the constant effort to give attention, and to concentrate the mind, which is at fault; so that it is better to prescribe rest, kephalin, avena sativa and matricaria.

TOBACCO SMOKING.—The many questions concerning the good and bad effects of smoking seem incapable of scientific settlement. The pros and cons are ever at war, and in the mean time the world goes on smoking more than ever.

Probably the first distinction to arise in mind is that relating to age, and few observant persons would deny that in the young smoking is not only not beneficial, but is positively the reverse. No boy should be allowed to smoke under any circumstances whatever. More than this, we believe that in young men it is indeed of very doubtful use. The qualification of personal peculiarity, of mental and physical make-up, rises just here. Certain it is that tobacco is more surely of good service in the elder man—in proportion as one approaches or has passed what might be called the psychologic menopause.

The next most important consideration is as to amount. Moderation is the first condition of the benefit to be gained from any good thing. The man who permits use to grow into abuse finds the most innocent thing may become the most pernicious. It is surely so as to smoking. To smoke all the time is to lose the good and the pleasure of smoking a little, and quickly changes the benefit into harm. We believe no fairly normal person of mature years was ever hurt in mind or body by the equivalent of three cigars a day smoked at the proper time. Six cigars or pipefuls a day we should say would be excessive or immoderate use.

THE USE OF TOBACCO.—Much representation and actual absurdity are taught in speaking of the tobacco problem. Surreptitious smoking is a constant source of trouble to parents. Normal individuals have no craving for either tobacco or alcohol, but weak, irritable, worried, suffering from indoor life, overwork or bodily or mental or chronic laziness. To the growing youth tobacco is a rank poison; also to poor, tired, underfed, overworked and worried humanity, vital function and capacity. The action of nicotin in arresting growth is remarkable. Mental decrepitude, effeminate, deteriorating. That nicotin will so affect the ovum or its fertilizing spermatozoon that the product of conception is some monstrosity. Some people are so selfish! What would dime museums do, if it were not for monstrosities! Besides, the innocent cigar-

ette is not going around squirting nicotin in the neighborhood of ova or spermatozoa; she is far too modest for that! Others, almost too numerous to mention (just common fool doctors, most of them), assert that they have seen the infant, the child, the man, stunted in growth, physically and mentally, by tobacco; but then it is plain that there is no mathematical formula by which such an assertion can be demonstrated, and so it is really not worth while considering. It is alleged also, by other witnesses of the same sort, that the use of tobacco weakens the eyesight and is responsible for a large proportion of the cases of imperfect vision that seem to multiply as the use of the innocent little cigarette increases; but, again, how are they going to prove that?—and besides, some people look well in spectacles, in fact, it gives the young an air of wisdom that is often quite overcoming. Then, too, the poor opticians deserve some consideration, don't they?

It is incredible, but yet it is true, that more of the same kind of prejudiced observers claim that tobacco has an injurious effect upon the heart; indeed, some have gone so far as to pretend that not a few of the sudden deaths are due to it.

Analysis of tobacco-smoke shows it to be composed of water, free carbon, ammonia compounds, carbonic acid and nicotin. The last is a complex substance, which, when analyzed, is found to contain a fluid alkaloid—nicotin proper—a volatile substance containing ammonia and a bitter, resinous extract.

The effect of these substances on the blood is to render it thinner and paler. The number of red blood-cells is diminished, their form being also changed and their oxygen-carrying power lessened.

The effect upon the heart is to produce functional derangement producing irregularity of action.

The nervous system is also affected, the sight is impaired by the poisons, causing paralysis of the nerves controlling the muscles of the iris. In extreme cases, convulsions and paralysis occur as a result of the action of the poisons upon the nervous system. The secretions are also disturbed and as a result there is frequently a distressing oversecretion of the salivary glands. These secretions, being frequently swallowed, produce irritation of the stomach, and as a result dyspepsia and loss of appetite.

The teeth become discolored from the deposit of free carbon upon them. The free carbon is also inhaled into the lungs, causing an irritation.

Tobacco cautiously used is certainly a charming pleasure in

ripe manhood, and a solace in old age, and is rather beneficial than otherwise to thousands of healthy but careworn and toil-worn people, and also to tens of thousands of soldiers, sailors, and other idle people on whose hands time hangs heavily.

Neither striplings with unformed constitutions, nor weakly, growing youths should venture to either smoke or chew, because in youth the vital centres are all unripe and delicate, and the mucous membranes are then marvelously hypersensitive to the effects of smoking and chewing; and if a growing boy's, or an undeveloped, puny youth's mucous membranes absorb either nicotin or the empyreumatic oil of tobacco it poisons his springs of life, and stunts his development mentally, morally, and physically.

Tobacco cannot be safely used in any form in boyhood or early youth, and smoking before the eighteenth year cuts off from many a youth half his stamina, and lessens all his natural talents and attributes.

Tobacco is prophylactic against all contagious diseases by its stimulating action on the salivary glands; its excessive use predisposes to relaxation of all involuntary muscular tissue.

Many brainworkers suffer from inability to sleep. This is frequently met with among those who work late at night. The sufferers complain that they feel most lively just when the time for retiring has come, and that a long period of restlessness precedes a troubled slumber, from which the slightest noise awakens them. This is very often caused almost entirely by an overindulgence in tobacco. They smoke just before going to bed, ignorant of the fact that not only may tobacco prevent sleep temporarily, but may render it less deep, and consequently less refreshing. A grave responsibility attaches to those who lightly seek to relieve a symptom which is really a warning by recourse to a dangerous palliative. The inability to sleep is often merely the outcome of an unnatural mode of life, and if this be corrected the disability disappears of itself.

Men who work late are commonly addicted to the tobacco habit. To them tobacco is not a relaxation after a day's work, but a nerve stimulant which enables them to accomplish tasks which would otherwise be difficult of accomplishment. When the mouth becomes dry, alcohol in some form or other is resorted to, as a fillip to enable the smoker to tolerate still another cigar or two. Under these circumstances, tobacco acts as a cerebral irritant, and interferes with the vasomotor centres of the brain to such an extent that the vessels are un-

able to adjust themselves forthwith to the condition required for healthy and untroubled sleep. Discretion in tobacco use would save many from this distressing condition of chronic insomnia. Smoking early in the day should be discountenanced, and it is equally undesirable within an hour or so of retiring to rest. The best remedy for the tobacco habit, short of total abstention, is to take a short walk in the open air after the last pipe.

TOLU (*Comp. Ozonized Syrup*).—Composed of balsam of Tolu and Peru, and dioxide of hydrogen and resorcin. Has been found of great utility in malaria, scarlet fever, diphtheria, bronchitis, and other maladies dependent upon the presence of a disease germ.

It is an active microbicide, promptly arrests those fearful disorders of defervescence by annihilating the disease germ and neutralizing its ptomain.

Dose.—From a few drops up to one-half a teaspoonful frequently repeated.

TONGO.—Tonga is the name given to a fluid extract of a special combination of the roots and leaves of several plants.

Therapeutic Uses.—Introduced for intense neuralgia. Its efficacy has been well tested by competent authority.

TONGUE.—Organ of taste, speech, and indicator of the state of the alimentary canal (see Diagnosis). It is believed that the coat on the tongue so often observed in perfectly healthy individuals is largely due to excessive proliferation of the hair-like appendages of the filiform papillæ rather than to any extraneous deposit. Some persons have a greater tendency to this overgrowth than others, and it is found less frequently with advancing years. In disease it is not to be regarded as an indication of the condition of the alimentary tract as popularly supposed, though it is nearly always present in acute diseases, whether involving the digestive system or not. In chronic cases it is not nearly so constant, being often absent even in chronic gastritis. On examination of the deposit from a large number of cases it was found that there was no appreciable variation in character in different diseases, and that the average proportions of epithelial cells, bacteria, mold, portions of food, and leukocytes in the mixture were fairly constant. In two diseases, however—viz., pulmonary tuberculosis and gastric carcinoma—the number of leukocytes is uni-

formly so large as to be a characteristic sign. The causes for the formation of this deposit are numerous. The mechanical element is of importance, for most patients are taking greatly decreased amounts of nourishment or subsisting largely on fluids, so that the normal scouring of the tongue through mastication and deglutition is interfered with. In many diseases there are increased formation and death of epithelial cells as a result of local congestion and serous infiltration—in fact, a desquamative catarrh which contributes largely to the coating. Changes in the bacterial flora of the mouth, as well as reflex nutritive and vasomotor impulses, also play their part, and, lastly, individual idiosyncrasies and the predisposition to increased growth and size of the filiform papillæ must be taken into account.

Independent of its coat it is an excellent criterion of the state of the blood and also gives information of the condition of the brain and nervous system; when the tongue is under complete control, can be protruded promptly and decidedly, we know the functions of the brain and nervous system are still unimpaired and free. But when the tongue is tremulous, controlled with difficulty, or is inclined to one side constantly, we know there are cerebral complication and suffering. Immobility, trembling, and stammering are signs of cerebral torpor, in consequence of softening of the brain or typhoid conditions.

TONSILS.—It is a well-known fact that individuals breathing by the nose are remarkably free from all microbic diseases; whereas, in mouth breathing there is greater liability to the ingress of disease germs. True, the tonsils form a sort of protective zone to the respiratory organs against disease germs entering the lungs, and if in a healthy condition they do their work very effectually.

From the many crypts and recesses, which open on the surface of each tonsil, there is a constant discharge of mucus, containg a large number of leukocytes, active scavengers of the human body, which attract and even destroy the germs in the atmosphere as inhaled, and which in breathing become adherent to them.

Being very vascular, they are easily and vitally depressed by such agents as cold, wet and the microbes of rheumatism; easily infiltrated with lymph, and to a great extent their proper function greatly impaired when hypertrophied, but even then no sane man can advocate the removal of those guardians of

health, performing such important functions. Whether from exposure or the microbe of rheumatism the tonsils once take on inflammation, their efficiency is greatly impaired, and there is a susceptibility to a recurrence spring and fall, which no treatment can relieve.

Hypertrophy first, and with its advent speech, breathing, memory, etc., are affected, the blood is imperfectly oxygenized.

The importance of the tonsils is not duly appreciated, if it were we would have a more energetic treatment of every case —a treatment in its acute form with aconite, belladonna, iodide of sulphur and occasionally iodide potassa, and, in order to make this treatment effectual, anesthetize the tonsils very many times daily, by wiping them dry and painting them over and over again with the jelly of violets. We claim for this treatment positive results.

All inflammatory action ceases. If lymph has been effused, hypertrophy the result, anesthesia with the jelly of violets will cause its disintegration and absorption and restore the tonsil near to its normal condition.

TONSILLITIS (*Acute and Chronic*).—Individuals suffering from poverty of nerve-force, with either the microbes of syphilis, tubercle in the blood, are very liable when exposed to sudden changes of the weather, spring and fall, to depression of the tonsils and to quinsy or tonsillitis, in which they are enlarged, red, swollen; difficulty of swallowing; a white, concrete matter seen on the tonsils; prostration, fever, restlessness; apt to terminate in abscess, induration, enlargement. First either an alcoholic vapor or Turkish bath; warm room, in bed, concentrated ozone over the angle of the jaw; inhale warm vapor of ammonia from an atomizer, gargle with either rescorcin or chlorate potassa or boroglycerid or peroxide of hydrogen.

Administer internally aconite and belladonna and compound syrup Tolu, iodide potassa, periodate aurum. Paint tonsils every three hours with jelly of violets.

General course of tonics and alteratives.

During the spring and fall months inflammation of the tonsils is a prevailing malady, in which many microbes, and especially that of rheumatism, can be detected.

General treatment for rheumatism is always in order, but an application to the tonsils should be invariably of a germicide and anesthetic character, gargling the mouth and throat with a

warm solution of chlorate of carbon, wiping tonsils dry, then by means of a swab paint them freely with jelly of violets every two hours, so as to render them completely anesthetic, thereby aborting inflammation and the tendency to the formation of abscess.

Every pathogenic microbe is liable to lodge in the tonsils, the micrococci of the eruptive fevers, even that of smallpox, the bacillus of tuberculosis; the streptococcus of diphtheria is often stowed away and grows in this gland. The germs of influenza secrete themselves here and it is the hiding place of the pneumococcus, all or one of them ready to take on activity and growth the moment the resisting power is lessened. A series of histological examinations assert this to be correct.

As a prophylactic to the entrance of all disease germs, the mouth and tonsils should be kept scrupulously free from all disease germs. So far we have no remedy so efficient as the chlorate of carbon as a gargle, and painting tonsils, uvula and fauces with the jelly of violets.

The immediate consequences of repeated attacks of inflammation of the tonsils are induration and enlargement; looking like a ball of flesh, jutting out from each side of the mouth at the angle of the jaw, with rough, uneven, irregular openings. Enlarged tonsils have a deleterious effect upon general health, lowering vitality, giving rise to tuberculosis; besides, articulation is imperfect, speech thick, guttural; the enlarged glands pressing upon the entrance to the Eustachian tubes, close them up; deafness often present; in addition they are a permanent source of irritation.

Apply the jelly of violets in acute, subacute and chronic tonsillitis with enlargement. This is the remedy to abort, control inflammatory action, and excite absorption of all inflammatory products—try it—simply paint the hypertrophied tonsils with it every hour while the patient is awake. Under this, morbid action promptly ceases.

TOOTHACHE FROM CARIES.—Softening and decay of denture, causing great pain when the central pulp is reached. This is the most common form of toothache, and is due to tooth starvation, the patient's diet being devoid of phosphates. He eats no corn bread nor uses oatmeal, and the bony elements of flour are destroyed with alum and other deleterious baking powders. Heat and cold are also destructive; so are disease germs or their micrococci in the mouth; but the great increase

in decay of teeth at an early period of life is due to the increase of nervous diseases which correlates to the deterioration of the teeth, each influencing, and, in a measure, causing the other. Besides the modern system of overstimulating the nerve force by a too early education, causing a defective power of assimilation and tissue formation, especially in the teeth. It may also be due to the malformation of enamel and bone; to the use of mercury, germs of tubercle, to indigestion, improper care of the teeth. It may be reflex, as in pregnancy.

Treatment.—Removal by scraping away of decayed portion and then stopping with gold or gutta-percha; no amalgam used, as it causes mercurial disease; extraction; troublesome hemorrhage to be arrested by washing out cavity; saturating cotton-wool with a solution of tannin or perchloride of iron, and a piece of cork to cause pressure when jaws are closed. The jelly of violets, insert a piece of cotton saturated with it promptly robs the tooth of pain.

TOXINS.—The toxins of disease germs are each chemically different, and have a peculiar affinity for paralyzing different tissues—for example, the toxins of the bacillus of tubercle paralyzes the sudorific ducts of the skin; malaria, the brain; syphilis, the spinal cord; pneumococcus, the vasomotor system; scarlatinal, measles, erysipelas, etc., toxins acting on the cells of the kidneys produce renal inadequacy, with high tension.

Toxins impair the secretory area of the kidneys, and give rise to persistent albuminuria; the absence of high arterial tension and cardioarterial changes does not negative the existence of chronic Bright's disease.

The great aim of all scientific treatment is to sustain the relation between the cardioarterial system and the kidneys, which secures diuresis, and here comes in the value of the comp. celery—this is its true sphere of action.

When the arteries lose their elasticity, the heart-muscle its tone, high tension becomes a danger, and we have to provide not only for cardiac failure, but the possibility of cerebral hemorrhage, ocular changes and uremia, the comp. celery ozonized is invaluable. In kidney trouble with heart failure creatinin surpasses all other drugs.

In practice we seek to increase the output of water, hoping that toxins will also be eliminated. A kidney has physical properties; disease germs may pass through a healthy kidney, in which toxins might become imbedded.

The sudden suppression of sweat forces the toxins back into the blood, and the stress of their elimination falls upon the kidney; dam the skin exit, the toxins of all germs fall upon the urinary organs and internal serous tissue.

TRICHINIASIS.—Trichinosis is the term used to designate a disease caused by the presence of a parasitic worm—the *trichina spiralis*—in the flesh of an animal. The information which most interests our readers is in relation to the preventon of the disease, as the medical treatment is unsatisfactory.

It should be remembered that living trichina may be found in the flesh of any animal which eats flesh, although pork is by far the most common source of infection in this country. A microscopical examination of the meat will reveal the presence of trichina, but the easiest and most certain way of avoiding infection is to thoroughly cook the meat. Recent experiments demonstrate that great stress must be laid upon the word "thoroughly," as it has been found that a piece of pork the size of one's thumb may contain living trichina after it has been boiled for twenty-two minutes. The smoking of pork in no way interferes with the life of trichina. Sausage is the form in which pork is most likely to cause trichinosis. This is due to the fact that the trichina seek those portions of the muscle which constitute the butcher-shop scraps, and are most likely to be used in making sausages.

When it enters the human stomach in the form of uncooked pork it is attended with peculiar symptoms very closely resembling typhoid fever. It is thought to be peculiar to rats, and from them finds its way into hogs, and through the latter into the human body. The trichina are usually swallowed in imperfectly cooked pork or sausage; breed in the intestines of man, and after being hatched, migrate from the bowels to the various muscles of the body, and live upon muscular tissue. They are true parasites. Their presence in the muscles give rise to violent constitutional disturbance. The disease is becoming fearfully prevalent. Scarcely a rat in our large cities free from it; they often communicate the parasite to water, or are eaten by hogs; the flesh of the latter, and even their lard, being affected. It is generally conceded that they are effectually dstroyed by a high temperature, although some doubt even that. Smoked or half-cooked sausages or pork are highly dangerous. They contribute greatly to the dissemination of the

disease. There can be little doubt, if this article is to remain a staple article of diet, that the highest kind of heat possible, without destruction of the meat, is the only safeguard.

Symptoms.—These will be very variable, depending upon the fact whether there has been many swallowed, the number of their progeny, and location of their migration. They embrace, however, general prostration, loss of appetie, nausea, diarrhea, and painful stiffness and swelling of the muscles of arms and legs. Pain is, no doubt, due to emigration of young trichina into the muscles, their colonization, multiplication, and encystication. Rigors, headache, high fever; edematous swelling of the face and eyelids; frequent pulse; copious, offensive sweats.

TUBERCULOSIS.—A peculiar condition of depressed vitality, in which the bioplasm of the blood, under some adverse condition, is changed, altered, degraded, into other living matter, a disease germ, the tubercular bacillus, which may remain latent in the blood under certain conditions; or if vital force be greatly shattered, it may take on an active condition in some weakened part of the body, as the membranes of the brain, synovial membranes of joints, the mesentery, bones, lungs, etc.

Independent of its spontaneous production, under those adverse states, insanitary conditions, meagre, adulterated food, absence of sunlight, deleterious trades, disease, etc., it may be communicated by contagion and infection in workshops, sleeping apartments, places of amusement, inhalation of dust. In the open mouth the germ comes in direct contact with the tonsil, through which it can penetrate even with its epithelium intact. The bacillus can enter at all points through the tonsillar crypts. It may be primary there, forming latent tuberculosis of the tonsil, feeding or supplying the blood stream. The lungs, either the bronchial mucus or their substance, are the favorite location of the bacillus of tubercle. Bacteriologican research reveals to us that the tonsils are a remarkable gland, not only for absorbing the germ when floating in the atmosphere, but for diffusing it through the lungs, hence the success of treatment by inhalation when the germ enters the body by this channel.

Tubercular ulceration of the larynx and bronchi, pain in swallowing and coughing, this form of pulmonary tuberculosis, rapid in its progress and very fatal, cured on inhalations of

jelly of violets, guaiacol, distillate of the pine. We would insist on inhalations even in cases in which the patient appeared to be sinking rapidly under advancing disorganization of the lungs; the effect is often to arrest microbic growth and prolong life.

Systematized treatment of pulmonary tuberculosis by location, by being as much as possible in the open air and sunlight, by baths, massage, diet to aid the medication, is most beneficial, having a prophylactic power to stop evolution and growth and eradicate the condition of depressed vitality. There are sovereign virtues in fresh air. Some climates may prolong the existence of the tubercular, modify nutrition, increase vitality, ward off complications, aid the vital forces to a cure.

The highly rarefied climate of Colorado and Tennessee, the pine woods of North Carolina are desirable locations for the tubercular, inhibit microbic growth, vitalize both mind and body—they may not positively cure; the case may be beyond that, but they always alleviate, promote quiescence, give hopes by a general improvement, fever disappears, night-sweats are arrested, cough ceases, weight increases.

Massage always to keep up muscular activity and assist nutrition.

The best of diet, not a stuffing process; true physiological feeding.

The most eminent authority in Great Britain states: Under depressed states of vital force; under certain adverse states inimical to a perfect elaboration of blood and nerve tissue, as meagre or insufficient food, sameness of living, monotony, isolation, absence of sunlight, deleterious trades, insanitary states, breathing respiration, inhalation of sewer-gas, use of alcoholic drinks, etc., lowering elements on both man and animals exercise a peculiar, unknown influence on the elementary products of the blood, which are either degraded or blighted, changed or altered into other living matter, with independent power of existence. This new evolution or change is a micro-organism, a disease-producing germ, which, in its development, growth or sporulation, excretes a ptomain, a toxical, death-dealing agent. It is not the disease germ itself that kills, but its excreta.

About ten years ago the bacillus of tubercle was discovered in the blood and tissues of men, women and children who suffered from great debility, hectic, malnutrition, emaciation, meningitis, pulmonary phthisis, tabes mesenterica and tubercular joint affections.

The presence of this microbe in the blood of any individual renders them capable of disseminating it to their fellow-men. Essentially contagious and infectious, the sputa of all elements excreted spreads the disease to every part of the world.

Up until the discovery of this germ, this pathogenic microbe, there were no known means of curing the disease, or rather killing the germ. All that could be done was simply to tone or strengthen the vital forces, so as to retard or prevent its growth. Since its discovery matters are very different. True, there is no cure in inoculation; it is merely a miserable avaricious subterfuge for gain, not for cure.

Certain recently discovered bactericides, however, seem capable of destroying the bacillus; those which rouse up the vital elements of the body, sterilize and annihilate it, and disinfectants to kill it in our houses, on the walls, furniture, clothing, floors, even in our public conveyances.

For several years we have had most voluminous essays sent us extolling the glycerite of ozone, peroxide of hydrogen, mistura guaiacol, ozonized tar syrup, prunia, sulphur and ozone waters in killing the bacillus and completely neutralizing its ptomain and preventing fermentation in the digestive tract, and hindering the evolution of the germ in the blood—promote digestion and assimilation by stimulating the gastric and intestinal nerve filaments. Even by inhalation through the skin (endosmosis) their germicidal influence is exerted vigorously on the ptomain of the germ.

There is real success in the treatment of pulmonary tuberculosis by germicides. The germ is killed, the ptomain is neutralized, the vital forces are able to recuperate.

When the bacillus enters the human body by the mouth, the tonsils become the leading receptacle for the bacillus, holds and disseminate it to the blood and lung. Acting on that idea, our readers will find that a little more attention to gargling frequently and prolonged inhalations of bactericides are of vast importance.

On ruminating on the tonsils as a feeder, a factor in the dissemination of a pathogenic microbe.

TUBERCULAR EFFUSION INTO THE MESENTERY.—The mesentery, which covers the small intestines, is a blood-raising gland, resembling the pink marrow in function; consequently any irritation of its structure quickly depreciates the blood and produces tuberculosis and infiltration of the gland with that bacillus. Children, second year of life; semi-tropical climate;

the insanitary condition of cities; adulterated food products; fermentaton in stomach and bowels give rise to summer diarrhea, cholera infantum and other intestinal irritation.

Taken altogether, cause great effusion of tubercular material, completely blocking up the gland, arresting its function.

Consequently an enlargement of the mesentery, a common malady in American cities during the summer months, fertile in mortality, because impoverishment from malnutrition is great—there is much emaciation, fever hectic, abdominal symptoms quite variable, from excruciating colic to ulceration and perforation.

Tabes mesenterica entails death upon many city children. Nevertheless much can be done in the way of prophylactic measures, such as bathing twice daily, followed by inunction with warm olive oil; to each tablespoonful one drop of guaiacol could be added; this prevents tissue waste; all disturbance of the alimentary canal, such as fermentation and diarrhea, should be checked by the administration of either the sulphocarbolates of lime, soda, zinc, or by siegesbeckie tablets, dissolved in water; either spices, aromatics or concentrated ozone to the abdomen, or a flannel roller; substitute beef juice for milk; administer two or four grains periodate aurum at night.

Then a selection of two, to be given alternately, of either of the following remedies, which should be given a fair trial: Dilute lactic acid; protonuclein; c. p. solution of spermin; thyroid extract; mistura guaiacol or creosote. With good nursing, country air, few cases fail to recover.

Tubercular Effusion into Joints.—The knee, the hip, less frequently the wrist, and elbow are the seat of tubercular deposit or effusion. Some injury to a joint of a healthy individual, especially if young; irritation long continued, weakens vitality, creates a tubercular diathesis, and if still prolonged tubercle is effused on and in the synovial membrane, cartilages, bones. True the products of inflammation coalesce with the tubercular effusion, the joint swells, movement is impeded or impaired; pain may or may not be present. If not checked the inflammatory and tubercular products break down. Abscesses form, pus makes its exit by several openings; discharge becomes purulent; the joint becomes disorganized. The vital forces are seriously impaired; internal organs degenerated; hectic fever, diarrhea, night-sweating; anorexia; insomnia; death either by exhaustion or from complications.

This teaches us to arrest promptly and efficiently all irrita-

tion in joints. Never permitting it to be prolonged, to depreciate the vital forces, and create a tubercular diathesis. Produce for a few days perfect anesthesia in the injured joint; completely nullify pain. This can be effected by applying jelly of violets to the entire joint.

Simultaneously with the application of this remedy over and above and below the joint inflammatory action and tubercular effusion cease.

A most important point gained, if tuberculosis has not been engrafted on the vital functions, a course of treatment consisting of rest, massage, bathing, with comp. saxifraga and matricaria and good diet may be sufficient to effect a permanent cure; but if the subercular diathesis be created, then a course for several months of glycerite of ozone, mistura guaiacol, matricaria, c. p. sol. spermin, protonuclein, thyroid extract.

Guaiacol suppositories; inunction of olive oil and guaiacol; every known reliable means to annihilate the bacillus and neutralize its toxin.

HIP JOINT.—Coxalgia, tubercular disease of the hip joint, essentially a malady of the young. Common at any age up to puberty, rare after, generally met with from three to twelve years of age. Most frequent in boys, they being more addicted to roving habits; jumping from a height, the impetus or force on the head of the femur irritates the lining membrane of the joints giving rise to a low grade of irritation. If it be not tubercular at first, the irritation rapidly makes an inroad into the vital forces and a tubercular diathesis is created, to which we must add likely insanitary states; poor or improper food; ill-fed. The difficulty begins in one or other or both bones which enter into the formation of the joint.

If case comes under treatment early with just the synovial membrane implicated, prognosis good; when either or both bones are affected, deeper seated with abscess, guarded as to its future.

A general depreciation of vital force; first striking symptom, pain, referred to the knee; some lameness; loss of movement; later on limb in fixed position; thigh flexed on the abdomen and limb turned outwards.

This position is assumed as it lessens pain in the joint. As the case progresses striking indications of tuberculosis; atrophy of muscles takes place; swelling of the joint becomes evident; limb of affected side appears longer than the other, because the patient tilts the pelvis and bends the spine to give

greater ease in locomotion. Later on abscesses form within the joint, destroying its integrity; usually pus finds an exit through several openings in the skin; joint loses its mobility, and finally breaks down, caries having set. Several effects may follow. Under good care, skill, recovery may take place, with ankylosis; limb shorter than the other; it may be fatal from pyemia or septicemia.

There is a distinct acute form met with in young children. Acute inflammation and suppuration of the hip joint; caused by some local irritation, and invasion of the joint with the micro-organism.

Osteomyelitis is developed in the upper crust of the diaphysis of the femur. When this is the result, suppurative arthritis invariably follows. This form is characterized by intense severity, sudden in its onset and acute.

Usually injury, lowering disease, greatly impaired vitality. Free opening of the joint; removal of the epiphysis and the affected part of the diaphysis, and the thorough application of germicides to the interior of the joint; drainage, counter-extension, vitalized nutrition in every way possible.

In young children the very beginnings of hip-joint disease are announced by muscular twitchings during sleep; added to this, the subject is irritable, the secretions are disturbed, the appetite fictitious, the muscles flabby and shrunken away on the affected side, the countenance pale, and the signs of illness are very apparent. Soon follows a little limp in the gait, attended with pains in the knee or ankle joint—not often in the hip. These pains are at first very slight, and may escape attention unless the medical attendant is very alert. A rise of temperature will be sometimes noticed in the evening, and it may be continuous; towards the last of this stage more or less spasm of the muscles will have supervened.

Tubercular Peritonitis.—The bacillus of tubercle is occasionally effused from the peritoneal membrane, where it has either suffered a partial death from inflammation, or other causes. Met with acute and chronic. In the former symptoms rapid; in the latter bacillus less virulent, and may occupy months before ascites and emaciation are perceptible.

The degree of partial death in the membrane and the aggregation of the bacillus modify the effusion. We may have a dry form in which hectic and rapid wasting result. In other cases an outpouring of lymph and flocculent serum, which may become purulent, producing unsymmetrical cakes of thickened

omentum; matted coils of intestine and encapsulated purulent collections. The products of the bacillus may caseate and ulcerating fistula may result. Tubercular peritonitis, when it takes place, is usually the only site of a tubercular deposit in the patient; hence if the treatment be correct, a practical cure follows.

The source of entrance of the germ into the weakened tissue is from the blood, but exceptional cases migration, either through the intestinal wall or through ulcerating appendicitis or tubal or ovarian tuberculosis.

The theory of cure that is sustained by most facts is the destruction of the bacillus, by applying over the entire abdomen the following mixture: Concentrated ozone, four ounces; menthol, from one to two drams; c. p. guaiacol, thirty drops; mix. The insertion into the rectum and vagina every three hours of a guaiacol suppository, at the same time glycerite of ozone and mistura guaiacol in such doses as the physician may direct.

Aided by these remedies the vital forces may suppress the activity of the bacillus, annihilate it, or incapsulate it and remove it by absorption. Modern thought points to the cure of tubercular peritonitis by laparotomy and irrigation with a warm solution of bichloride of mercury.

TUMORS.—A morbid growth is a certain aggregation of living tissue, growing independently, excessively, and abnormally. The word *tumor* is applied to it. They seem to originate in an excess of certain materials in the blood, and some local irritation causes those materials to be exuded or thrown out. What the constitutional defect is, is unknown. They constitute a local error of formation, and they are identical with certain constituents of the body, and not incompatible with a high standard of health when they are simple. They may grow, or remain stationary for an indefinite period, and latterly suffer degeneration, or excite inflammation, suppuration; or they may, by their bulk, cause obstruction, edema, paralysis of parts. They are devoid of pain.

In another class of tumors we have the degraded bioplasm of our own bodies (a cancer germ) entering into them, and constituting a malignant tumor or growth, which grows by its own faculty of germ elaboration, and forms fresh aggregations from the blood. They are called malignant because their tendency is to destruction and death; and they are always painful. So we draw a line of demarcation between the two

kinds of growths. Both are constitutional; that is, the elements are in the blood, arising from some defect. In the *simple* class, the matter in excess in the blood is some of the normal tissues of the body, as fat, fibrous tissue, etc.; whereas in the malignant class the tumor is either partly or wholly made up of disease germs, the degraded living matter of the human body; matter changed by adverse conditions, but living and growing, and capable of independent existence for ages.

FATTY TUMOR.—This is composed of genuine fat tissue; that is, of oil globules packed in the meshes of a natural areolar tissue, contained in a capsule, in which blood-vessels ramify and supply nutrition. They generally grow in the subcutaneous tissue, between the skin and the muscles. They are most frequently met with below the collar-bone, body, back, neck, inside of the thighs, and sometimes in or among the muscles.

In number there is generally one; it grows slow, may attain an immense bulk, seldom degenerates, is free from pain, and is easily recognized by its soft, lobulated, doughy feel, which never can be mistaken for anything else.

If the tumor is not large, in some cases (not always), the application of the ozonized clay has a most marvelous effect in causing its dissolution. It is worthy of a trial. It may be kept constantly applied, if it induces no redness of the skin; if it causes any redness, off and on at proper intervals.

At the same time administer the ozonized phytolacca berry juice.

FIBROID TUMOR.—This tumor is composed of fibrous tissue, identical with that of the normal tendinous structures of the body, arranged in bands, loops, or crescentic layers. Some contain more blood-vessels than others, and are pinkish in color, but the majority of them are destitute of vessels. This class of tumors is found in the womb, breast, bone; when found in the breast they pass by the name of *neuroma*. They are firm to the feel, free from tenderness, smooth, oval, or lobulated; of slow growth, lasting an indefinite number of years. It often degenerates into a stony mass, or earthy salts.

When no larger than an orange, the application of the clay should be tried, keeping it steadily applied if no erythema is produced, and administering iodide of potassa internally. That failing, extirpation is the only remedy.

Besides the above, there are often found (1) a subcutaneous tumor about the size of a pea, composed of fibrous tissue, which affects women, and gives rise to neuralgic pains; (2) a

fibrocellular tumor, made up of bands of firm, white, fibrous tissue, infiltrated with serum; (3) fibroplastic tumor, made up of fibrous tissue and lymph; (4) fibrous tumor, composed of filaments of fibrous tissue, with naked nuclei.

COLLOID, OR GELATINOUS.—A substance resembling a jelly, of various degrees of firmness and transparency; is found in cysts of the thyroid gland, ovaries, and prostate. It is also found in stomach and bowels.

CARTILAGINOUS TUMORS are made up of round masses of cartilage, imbedded in fibrous membrane. It may consist of various degrees of firmness, from very soft to as hard as cartilage. They are found on the fingers, joints, testicle, mammary glands, parotid, lungs. Their growth is slow.

OSSEOUS TUMORS are generally found in connection with bone, and very little difference can be detected between them and true bone.

GLANDULAR TUMORS are formed by the development of a substance resembling that of secreting glands.

SEBACEUS TUMORS.—Wens, or encysted tumors, are most common on the head, face, scrotum, labia, and shoulders, and consist of obstructed sebaceous glands, or else of erratically formed cutaneous cysts. In examining them with a small glass, the orifice, or mouth of the gland, can be seen in the centre in the form of a black spot or crust. They are all lined internally with a serous membrane, which secretes water, epidermis, scales, hairs, nails, oil globules, and crystals of cholesterin, which cause the contents of the sac to resemble gruel or suet. The cyst is liable to accidents, which give rise to distention, suppuration, ulceration.

Treatment.—The cause that engenders them is irritation; so they never should be irritated or tampered with, and, as a rule, not interfered with if patient is out of health. In all cases they should be removed by the knife only by making an incision through their centre, and carefully dissecting out their sac, for if the smallest portion be permitted to remain, it will give rise to a sinus and weeping. Such tumors are common in the breast, prostate, parotid, and thyroid glands. As a rule, they are painless, not tender, moderately soft, elastic, and lobulated. Extirpation is the only cure.

CYSTIC TUMORS are tumors consisting of a sac containing solid or liquid substances. They may arise by the formation of definite cavities in the meshes of the areolar tissue; by the dilatation and growth of obstructed gland duct or follicles,

by the erratic development of nucleated cells, which become exaggerated into cysts. Some contain serum others a jelly-looking substance; some blood, others solid matter.

MELANOTIC TUMORS.—The term melanosis has been indiscriminately applied to all tumors or deposits containing black pigment matter. Pigment is of frequent occurrence in the human body, and consists in a deposit in the form of the minutest sepia-colored granules, of dark-brown or black appearance.

TUMORS IN THE BLADDER.—A large number of growths are developed from the walls of the bladder: warty, or polypoid fibrous bodies; villous, or vascular growths, and cancerous deposits.

Whatever the nature of the growths, they give rise to symptoms that resemble calculi—frequent micturition, a painful sense of inability to empty the bladder; urine may be bloody, or purulent, or ammoniacal, or loaded with mucus.

Cancerous deposits are the most numerous; medullary, epithelium, more common than scirrhous; suffering great; easily recognized by the pain anterior and posterior, the cachexia, and germs in urine.

Treatment.—If patient is seen early, the ozonized clay has a marked effect over the bladder, with ozonized remedies internally. Ozonized oil of thuja, both orally and injected into the bladder, with an excess of peroxide of hydrogen, does immense service in the obliteration of all growths from the bladder-walls. One ounce of the oil to three of the peroxide of hydrogen.

TUMORS OF THE BREAST, or Sero-cystic Disease.

Most common among young unmarried ladies, due to ease and overfeeding. Globular, painless, seldom large, like a marble; movable serum may ooze from the nipple. Disease remains stationary for many years, but is prone to end in cancer.

General Measures.—Improve the general health by using alteratives and tonics, saxifraga and coca, and keep the breast protected from all irritation.

Fibrous tumors, due to irritation which causes an effusion of an adventitions amount of this substance.

Absorption may be excited in a large percentage of cases with the ozonized clay, and such alteratives as saxifraga and phytolacca. These failing, try a mixture of equal parts of ozonized resorcin ointment, and phytolacca berry juice. Very large tumors have been effectually absorbed by this. It is

applied daily, and the length and frequency of its application must be regulated by its effects—never cause any irritation is the rule.

Lacteal tumors best got rid of by the application of belladonna.

TUMORS OF THE LABIA usually belong to one or the other of three varieties.

First.—Encysted or sebaceous.

Second.—Vesicular or oozing, attended with profuse, watery, acrid discharge.

Third.—Warts.

The two former should be removed; the latter will be overcome by the use of thuja, internally and locally.

VASCULAR TUMORS OF THE LABIA, or strawberry excrescenses, extremely sensitive and tender, bleed freely if touched. Removed by touching them with solution of chloride of chromium; ozonized oil of thuja is slow but painless, but brushing it on daily or more frequent they soon wither and die and exfoliate; or chromic acid, followed by boroglycerid. Keep the urine alkaline by using nitrate potassa.

TUMORS, OVARIAN.—Due to irritation. They are either serous, fibrous or sebaceous; the serous and fibrous are most amenable to absorption by the application of the ozonized clay opily, or simply apply it one day, the following apply the resorcin ointment and phytolacca berry juice. Time is wanted, with perseverance.—never to cause redness. The introduction daily of an aristol pastil exercises an absorbent salix nigra; the salix nigra; in form of an ozonized fluid ext. administered thrice daily, alternated with saxifraga. The introduction daily of an aristol pastil exercise an absorbent action upon ovarian enlargement.

The sebaceous does not admit of absorption.

Occasionally the cancer germ localizes there, which is known by the pain anterior and posterior.

TURPENTINE, CHIAN, MISTURA.—Highly charged with ozone.

Chian turpentine, which we use, is specially collected for us in the Island of Chio, from the *Pistacca terebinthae*.

Emulsified thallin, resorcin, sulphur introduced, subsequently negative ozone. In this form it is a powerful bactericide, annihilating the cancer microbe; besides it does not irritate the stomach, is absorbed with great avidity, and its germi-

cidal properties increased fifty per cent. As thus prepared by us, it is an energetic ozone producer, highly vitalizing, an agreeable aromatic, with an odor resembling the pinaceous turpentine.

Its special action, when administered, passed into the blood tissues, is to search out the cancer germ, which it surely finds, and slowly, silently kills it. Under its use pain ceases, the tumor, or aggregation of germs, with it also dies. If there is an open breeding, eating surface it becomes covered with a characteristic grayish slough, indicating aperfect annihilation of the cancerous microbe. Tumors also dwindle and atrophy under its use.

Directions for Use.—Dose: One teaspoonful of the Chian turpentine mistura three times a day, which is to be gradually increased to nine teaspoonfuls in twenty-four hours.

TYPHOID FEVER.—This special pathogenic bacillus plays an important part in the drama of civilization.

Its evolution, its peculiarities, its mode of growth and propagation, its prevalence at particular seasons and localities, its ptomain and its victims are all special subjects of study.

Even in perfect health the typhoid bacillus is found in the human body, in the blood and tissues, but it is harmless because it will not grow until the vital force is lowered, the power of resistance overcome, then only have we a suitable soil on which it can grow and multiply.

This micro-organism is the most diversified and widely spread, for we find it in our drinking water, in milk, food, in all albuminoid media, and even in the soil through which water percolates.

In whatever way the germ enters the body, whether by contagion or infection, it can do little harm, as it will not grow till vital force is weakened; let that be weakened the localization of the germ is at once definitely settled, namely, in the intestinal glands, for there it will grow in great luxuriance; simultaneously with its appearance in the glands of the bowels, we find it in the adenoid tissue, mesentery, spleen, lymphatics, growing luxuriantly and virulently, if the parts are in any way below the average.

The growth of the microbe in the intestinal glands is the all-absorbing point, for it is there, during the process of sporulation, that the great chemical product is elaborated—the ptomain, which plays havoc with the vitality of the tissues.

The continual epithelial shedding and proliferation of the mucous membrane of the bowels, which takes place when the germ is actively at work, weakens the parts, and favors additional bacillary invasion.

The glands of the bowel have a low grade of vitality, a feeble power of resistance among all highly civilized men. We see that when they are attacked by a similar microphyte—the tubercular bacillus, whose life history, and power of infiltrating and destroying glandular structures, are very similar to the typhoid bacillus.

The entire process of life history of the typhoid bacillus, from its invasion to its death or disablement of the gland, is fourteen days—the normal duration of active fever from a pathogenic point of view.

After this a new set of enemies may appear upon the scene, micro-organisms of various kinds; colonies of necrotic tissue around the glands begin to generate their peculiar toxins, and give rise to special symptoms after the fourteen days.

Two weeks from the rigor, the typhoid bacillus has done its work, so far as the intestinal glands are concerned; subsequently we have the saphrophyte bacteria and their effects to deal with.

Recent bacteriological work has forever settled the pathology of this fever. The catarrhal state of the bowels induced by the germ in the intestinal glands, the septic poisoning of the ptomain excreta—these phenomena with others call for a nutritious diet, in a liquid form, such as will be readily absorbed by the stomach and duodenum, and leave little to be done by the small intestine.

The living germs of typhoid fever can be transmitted from the infected to the non-affected in a variety of ways.

The intestinal evacuation of our affected contaminates the drinking water, and becomes intensified as it diffuses itself.

Typhoid fever in many cases exists without any intestinal lesion, or with intestinal trouble playing a minor rôle in the disease. It is simply needy drug firms that assume that the essence of the disease is an intestinal ulceration. This idea is fast disappearing before the researches of bacteriology.

Nevertheless, it is contagious and infectious, so that all individuals affected should be isolated and their apartment deprived of everything that could retain the bacillus, carpets and rugs removed, the raising of dust avoided, floor oiled and daily mopped with a solution of formalin, and every precaution taken by proper disinfection.

The microbe of typhoid fever resembles, in its invasion of the human body, the action of many other disease germs, infectious and contagious, often epidemic; infection too often communicated directly from food, water, shellfish, milk, uncooked vegetables and occasionally direct infection from the patient to those in close proximity—personal infection being one of the modes of dissemination by direct contact. If sewage could only be prevented from entering our streams, lakes, rivers, no microbic affection could be more easily stamped out. As it is, we depend upon active germicides for its destruction and elimination of its toxins.

Typhoid fever must be regarded as a modified form of septicemia, as the bacillus is found in well-marked cases in the blood, mesentery and spleen, Peyer's patches and the solitary glands of the intestines, liver, bile, brain and bone-marrow, kidneys, lungs, even in the petechial eruption and in all the excretions, sweat, saliva, fauces.

The bacteriological origin of typhoid fever demands an antiseptic course of treatment, a powerful germicide to prevent septicemia, one which will exercise its effects on the intestinal canal and not on the stomach. Its action must be thorough disinfection of the contents of the bowels, it must also penetrate the intestinal tract and enter the blood; such a remedy is naphthalin, such is salol, such is chlorine; these remedies the intestines rapidly absorb, and pass into the blood.

The pushing of such remedies in all cases of typhoid forms an admirable and successful treatment.

One of the leading physicians of this country states the primary action of this disease germ is to set up inflammation of the gland follicles of the intestines, but its activity is not confined to those structures, for it enters the blood; but whether in the blood or intestinal glands, it excretes in its growth, or by disintegration, a ptomain or toxin, which gives rise to fever, headache, prostration.

Recognition of the fact that no remedy has yet been discovered capable of destroying this microbe in the blood, or of completely neutralizing its toxin, does not carry the implication that germicides have no place in the treatment of typhoid fever. Since the introduction of the treatment of this fever with microbicides, its mortality has diminished even more than one-half.

Ptomains, absorbed products of bacterial action, are not only found in the blood, but in the intestines, whence they are taken with the circulation.

Besides, the pathogenic microbe, the typhoid bacillus, there are numerous other disease germs found in exudation from Peyer's patches, and in the germs of catarrh present, which afford a remarkably rich pabulum for septic germs, some more deadly than the original.

As to the causation of typhoid fever, various opinions are adduced; one that it is due to external infection; the other, autogenetic, internal; both are true; but in whatever way it originates, Peyer's patches and the solitary glands of the small intestines are its abode, and it is here that most distinct pathogenic changes take place, but after middle life these glands become obliterated, and are not suitable for germ life.

The latest remedy brought into requisition for the destruction of the typhoid germ is the oil of cassia suppository, which has been quiet extensively used. In its composition naphthalin is used in conjunction with the oil. One inserted twice daily has remarkable microbicide properties; their use lowers temperature, and causes a gradual disappearance of symptoms. They are excellent intestinal antiseptics, as the bacillus disappears entirely from the dejecta.

Physicians generally have discarded the use of veratrum, aconite, in typhoid, and substituted germicides. Gelsemium, still in good repute, administered in liquor ammoniæ acetatis, it antidotes the insomnia, and combining it with strophanthus stiffens up the action of the heart when smitten with the toxin of the microbe.

Whatever views are entertained of enteric fever, it is quite certain that in every case there is a pathogenic microbe present, which gives rise to irritation, inflammation, ulceration of the intestinal glands; that the same germ can be detected in the blood and in all the secretions and excretions; that the toxins, the product of bacterial growth paralyze the nervous system.

It is endemic and often epidemic over all North America, although cities are the chief abode of this germ; impure drinking water, meagre hygiene, want of sanitation; inactive livers of its denizens, with latent disturbance of the hepatic function, give rise to intestinal disturbance.

We must, however, look to a specific contamination of water and food for the dissemination of the typhoid bacillus, although it can be transmitted from the sick to the apparently healthy by means of emanations from the evacuations, urine, breath, perspiration. It never can be prevented, neither can it be eradicated, until we get rid of our water-carriage system of

sewerage. The germicidal treatment of typhoid has completely ameliorated all its symptoms, and reduced its mortality to a cipher. This treatment does not consist in using the prescription of a miserable charlatan, prepared and sold by an avaricious, unprincipled drug vender, but in inculcating rest in the recumbent position in bed, in a well-ventilated apartment; in sponging the entire body morning, noon and night with tepid water acidulated with acetic acid; in maintaining a high-grade liquid nutrition; in keeping applied to the entire abdomen olive oil and concentrated ozone at stated intervals; in the daily exhibition of enemata composed of Valentine's meat juice and protonuclein, as the physician and not the druggist may dictate, and in the selection of a proper germicide to administer iternally to kill the germ in the intestinal ulcers and neutralize the toxins elaborated, and afford the vital forces a chance for recuperation. Many vegetable remedies are recommended for this purpose, but the ozonized concentrated tincture of siegesbeckie is the most active and reliable. It is a remedy of singular potency in choleraic, cancerous, dysenteric, tubercular deposit on the intestinal tract, and exceedingly efficacious when the glands of Brunner and Peyer are engorged with the typhoid bacilli. It acts as a dynamic agent on the nerve centres, and is a safe and efficient remedy in typhoid fever.

A good common-sense physician will lose few cases of typhoid. His great object will be either to annihilate the germ in the intestinal tract, of which it is a denizen, or to neutralize and eliminate its toxin, the products of its growth generated by the germ along the alimentary canal. To give us this low mortality he will select and administer two of either of the following remedies as intestinal antiseptics, alternately, well diluted in water:

Chlorine, salol, sulphocarbolate, sulphur water, lactic acid of soda, zinc, carbolic acid, salicylic acid, naphthalin, siegesbeckie, echinacea, baptisin tinc., cassia supp., peroxide hydrogen, ozone water.

This rational treatment of typhoid must be aided by perfect rest in the horizontal posture in bed; the entire body must be sponged and dried thrice daily, with soap and water, then with alcohol and water; locally, after each sponging, oil the entire abdomen and cover with concentrated ozone; cleanse the bowels by administering enemata of infusion of flaxseed, to which either Chian turpentine mist. or peroxide of hydrogen is added. Every other night three grains periodate aurum.

This auxiliary treatment is chiefly eliminative and has a good effect in ridding the system of toxic products generated in the alimentary canal; it keeps all organs, especially the brain, in splendid condition.

Liquid diet exclusively until convalescence is established, beef tea, malted milk, broths, soft toast, light custard, white of egg. Overeating is bad.

TYPHUS FEVER (*The Micrococcus*).—Typhus fever is the outcome of crowding large bodies of men, women and children in small areas, aggravated by insanitary conditions, common in European cities, in prisons, ships; contagious and infectious.

Its recognition is never difficult; the peculiar odor of the skin is most significant, with feter of breath; dull, drowsy condition, followed by rigors, fever, great depression and prostration; variable head symptoms, which are often severe; dull, sleepy, comatose, hard to rouse, lie on back; low, muttering delirium; ringing in the ears; flashes of light before the eyes; giddiness, contracted pupils; countenance dingy, muddy, cheeks red; obstinate constipation; stools dark colored; thirst; nausea; tongue brown coated.

About the fifth day, sooner or later, on the finer portions of the skin there appears a rash back of the wrists, below the clavicle, near the armpits, pit of the stomach, extending to the limbs, rarely on the face and neck; fully developed in a few days, consists of a measly eruption, irregular, dusky red, somewhat mottled; maculæ, or mulberry spots, deepening in color, not disappearing on pressure. In mild cases it may last only a few days; in more aggravated types it may not disappear to the fourteenth up to even the twenty-first day. There is a gradual increase of the fever up to the seventh day, then a remission, during which a milder grade exists up to the fourteenth, then gradual convalescence. Critical period about fourteenth day. Complication, lung congestion. It never can be mistaken for typhoid; the white skin, patchy tongue, wiry pulse, the unmistakable bowel trouble do not exist in typhus.

Abundance of pure, clean air to breathe, tepid sponging thrice daily.

Pathogenic bacteria produce by their growth and multiplication in the body specific poisonous substances which are termed toxins. Each microbe, therefore, according to its kind or species, excretes a definite chemical body, highly toxic to highly organized living matter.

The evolution of the bacillus of typhus fever is from the exposure of decaying animal and vegetable matter, aided by solar heat, filth, foul air, overcrowding, sewage-tainted soil and all insanitary conditions.

Decaying animal and vegetable matter, carried in open carts or exposed on the streets, fills the atmosphere with all the elements of a terrible pestilence or plague. Such an exposure not only generates but propagates a germ which has decimated cities.

The toxin, the factor of the stupor of typhus fever, poisons the nerve cells and ultimately deteriorates the brain.

The annual mortality from typhus fever in European cities is enormous, especially in times of great commercial distress, as now exists.

The microbe of typhus fever and that of the plague are identically the same; indeed, every symptom in a full-fledged case is the same in both—the same mode of seizure and developing; everything the same; stupor, rash.

Freshly made chlorine, that is, daily, combined with sulphate of quinine, are the best remedies—most active germicides. They are rapidly diffused through the blood, killing the germ, neutralizing its toxin. Under this prescription, temperature falls, pulse slows, brain is cleared; all symptoms gradually yield.

The ozonized concentrated tincture of echinacea has been used in many cases, with excellent results.

ULCERATION.—This consits in the progressive softening and disintegrating of successive layers of the affected tissue, and is a breach of continuity of surface, or chasm in the part. Its causes are either unrepaired injuries or inflammation. Those most liable to it are the debilitated, the intemperate, the mercurial, tubercular, syphilitic; and the parts of the body most generally affected are those in which the circulation is languid, as the extremities. There are numerous varieties, designated from the appearances they present.

Healthy Ulcer.—In constitutions, or parts predisposed to it, the slightest irritation may be sufficient to excite ulceration. In the vigorous it requires more irritation; but when produced, it may be what is termed a healthy ulcer, and present a sore free from pain, with a fine granulating surface, with smooth, white, milky edges, and its pus thick and creamy. A healthy sore is smooth, covered with a transparent pellicle or scum, which is lost on the margins of the granulations.

Treatment.—In all ulcers or breaches of continuity we must recognize a degradation of healthy living matter, or disease germs. In a healthy sore we find nothing but the bacteria, and those in very small numbers; so that it is important that all dressings exclude air completely, be somewhat stimulating, and invariably antiseptic. Ozone ointment should therefore be kept constantly applied, spread on fine old linen or lint, about one-sixteenth of an inch thick, a little larger than the sore, changed twice or thrice daily, the dressing on each occasion to be fresh. Before any dressing is applied, the limb should be bandaged from the extremity up, leaving a space for the application of the ointment, and over and above that a few turns of the bandage.

The most recent method of treating ulcers is by dusting formal-gelatin on them, which destroys all bacteria; causes instantaneous cicatrization.

The limb should, if possible, be kept at rest, and in an elevated position. The constitutional treatment required here is tonics, cinchona, and a liberal, generous, blood-forming food.

INFLAMED OR IRRITABLE ULCER.—This term is applied to an ulcer when it is hot, tender, very red and painful; bleeds easily, and the discharge is thin, irritating; in some cases foul and copious, and heavily loaded with bacteria.

The cause of this is some malassimilation, perverted nutrition or derangement of the general health.

The treatment should consist in opening the bowels, correcting the malnutrition with tonics, and plain, unstimulating food; in allaying pain with conium. After a free action of the bowels, the sore might be stimulated with lime-water and tincture of iodine lotion, or permanganate potass lotion; whichever is applied must be of sufficient strength, and kept constantly moist by a frequent application of the lotion, and a covering of oiled silk. It is likely this will be sufficient to exhaust the irritability, and reduce it to a simple ulcer. If not, dress with jelly of violets; if that is not successful after a fair trial, brush it over with nitric acid, poultice for a week, then use the lotions, and follow with vaselin or ozone ointment. In all cases the limb to be bandaged from extremity up; rest and elevation maintained. In all cases of irritable ulcer, a perfect freedom from pain must be obtained, an active alterative and tonic course pursued, with good food.

INDOLENT OR CHRONIC ULCER.—Old ulcers of ten or twenty years' standing have generally a smooth, uneven sur-

face of a pale, ashy color, like a mucous membrane. In some cases it may display a crop of weak fungous granulations. The edges are raised, thick, white, insensible, either inverted or everted; discharge scanty and thin, and contains a few bacteria. Those ulcers may remain stationary for years, or take on an attack of irritability, and become inflamed; or may heal, and then suddenly give way. An irritation in the body existing for years gives rise to a cachexia, which is essentially tubercular.

Treatment.—Before interfering at all with the ulcer, the patient should be placed upon a very active alterative and tonic treatment, with a varied diet, rich in blood elements, for a month or two. If the patient is feeble, the stramonium ointment and iodide of potassa should be applied to the ulcer to soften and absorb the granulations and indurated edges. If he is more vigorous, the ozonized clay should be applied between fine muslin, and when it becomes dry remoistened and reapplied, or else a fresh application. This will make quick work of destroying or softening it down, and stimulate it into activity. A poultice of wood-ashes, caustic potass, are valuable, but severe in their action, the object in view being to bring the ulcer into a healthy condition. When this is effected, the ozone ointment should be used as a dressing. Another very excellent method of treatment is the oxygen treatment by the peroxide of hydrogen. Its application to all ulcers: (1) Diminution of irritation—any dressing applied to an open sore causes more irritation than a mixture of oxygen and pure air. (2) Direct stimulation without irritation. (3) The oxygen may oxidize the toxins produced by micro-organisms in the surface of the ulcer—this may apply more especially to the toxins produced by bacilli when present. (4) The oxygen has possibly a selective power in its action on micro-organisms present in the ulcer, encouraging staphylococci, which then outgrow the bacilli. Some of the foregoing points are at present under investigation. Here, as yet, we have only the practical results of a few cases to go by, all of which are in favor of the oxygen treatment.

If not successful, apply the irritating plaster, same size as the ulcer on the opposite side of the limb; with it keep an open sore till the old one is thoroughly healed. This latter will heal readily. Above all things, push constitutional treatment and good food; bandage, elevation, rest, not to be overlooked.

TUBERCULAR ULCER.—These are generally met with in the

neck, axilla, groin. They consist of an aggregation of tubercular germs in a chain of lymphatics—two, three, or more; the tubercles grow, first albuminous, then milky, cheesy, and latterly, calcareous—generally form several points which excite inflammation of cellular tissue, skin, giving rise to numerous openings, through which the curdy or cheesy matter exudes. Those perforations communicate below with each other and form ugly, puckered cicatrices on the neck or elsewhere, when they discharge and heal up.

In all cases general treatment for tuberculosis. At whatever stage seen, the clay during the day, several days in the week; at other times keep constantly applied ozone or storax ointment. If seen before skin breaks, the clay annihilates the germ colony. It should always be applied between cloths, so as to prevent gritty particles getting into ulcers or skin. Diet of the best.

VARICOSE ULCER.—An ulcer dependent upon a varicose condition of the veins of the limb. The consequent venous congestion weakens the already debilitated parts, and renders them prone to ulceration. The ulcers are generally three or four in number, situated above the ankle. Oval in shape, indolent in their progress, neither extensive nor deep, but attended with considerable pain of an aching character.

Treatment.—Get the general health into good order by tonics and alteratives, with abundance of good food and fresh air. Keep bowels regular, and attend to the skin by daily sponging. The internal and local exhibition of the witch-hazel to tone up the veins; an infusion answers the purpose. The patient should wear an elastic stocking or bandage during the day. Before it is applied in the morning, limb to be bathed first with soap and water; then either tincture or infusion of witch-hazel applied; sore dressed with either storax or dermolia, or ozone ointment; over the dressing a piece of oiled silk; then an ordinary stocking, and, above all, the elastic stocking. The same should be repeated in the evening, but the elastic stocking need not be kept on during night, unless case is a very bad one. Infusion of oak bark, alcohol and salt, and other remedies are of no importance when we have witch-hazel.

FISTULOUS ULCER.—Consists of a tube or narrow channel, lined by a false membrane, which is a secreting membrane, and which may, or may not, lead to a suppurating cavity. In old cases, the walls of the tube are dense and semicartilaginous. Fistula may be produced by a deep-seated abscess, not

healed from the bottom, or by caries or necrosis of bone; or by the perforation of tissue by a mechanical irritant or obstruction.

Treatment.—If there are several openings, or fistulas, communicating with dead bone, it is folly to attempt to heal them. They should, if the parts permit, be run into one, so as to give nature as little labor as possible in throwing off the dead bone. If due to the imperfect healing of an abscess from the bottom, it should be either slit up, or injected with a strong solution of iodine and iodide of potass; or brushed over with nitric acid; if in or about the rectum, treat as laid down under that head (*Fistula in Ano*).

Phagedena: Sloughing, or Eating Ulcer.—A state that is liable to be brought about in all ulcers by the use of mercury, the presence of syphilis, meagre or insufficient food, bad diet, filth, poor ventilation, and insanitary states.

In addition to the ordinary bacteria of all ulcers, a species of the diphtheric microbe, or rot, is developed on the ulcer. When a sore becomes so affected, its surface becomes irregular; in color, white, yellow, greenish, blackish; the discharge is bloody, serous, profuse or scanty, and the pain extreme; and by and by the sore becomes more painful, ragged, uneven; looks as if bitten out by the teeth of an animal, and is of dusky or livid aspect. There is apt to be fever and constitutional disturbance.

Treatment.—Very active measures must be taken to prevent the progress of the disease. Aconite and veratrum for fever; echinacea, brewers' yeast, cacodylate of sodium, quinine, antiseptics, best of diet; attend to bowels, skin, and expose antiseptics in apartment. The ulcer should at once be destroyed with caustic potassa, followed by vinegar, and then dressed with antiseptic poultices, charcoal, yeast, wild indigo, and then antiseptic ointments. If the case does not warrant such extreme measures, apply the ozonized clay for twelve hours, and follow with same poultice and dressing, or try compresses saturated with peroxide of hydrogen, to which sulphocarbonate of soda is added. It must be laid down as an imperative rule, a perfect alleviation of pain with opium or morphia; for so long as we neglect this essential element the disease may occur again and again, the tendency to ulceration being in direct ratio to the pain.

Hospital Gangrene is simply phagedena produced by overcrowding a large number of wounded men together. It

is slightly more aggravated, being more highly contagious and infectious, than the former, and requires the same treatment, and, if possible, isolation.

MALIGNANT PUSTULE (ANTHRAX).—Becoming very common, from importation of foreign wool, hides; and the operatives in such are often fatally affected. It begins as a little dark-red spot, with stinging or pricking pain, on which a vesicle and then a pustule, seated on a hard, inflamed base. When this is opened it is found to contain a slough as black as charcoal, which is a mass of giant bacteria. There are likely to be more than one, and to spread with rapidity, and the system become affected; or there may be systemic poisoning, first, from the workers breathing in air loaded with the disease germs. (See *Anthrax.*)

ULCERATION OF THE STOMACH.—Gastric ulcer manifests itself in a variety of types, from a simple erosion, exceedingly small, often giving rise to copious hemorrhages; lesions of the mucous membrane, larger than an erosion and simple ulcer. The most formidable complications of all are hemorrhages; genuine ulcers are usually round, scooped out, and perforation often takes place. Syphilitic, tubercular, metallic ulcerations are common.

Its etiology in all cases due to some irritant, and, from present indications, adulterated food products, preservatives, embalmed meat in tins, etc., are sources which are most productive of it. An invaluable remedy in gastric ulcer, to arrest the hemorrhage and promote cicatrization, is the administration of the green root tincture of gelsemium, alternated with 5 grains of resorcin in one ounce of distilled water every three or four hours; affords great relief; then a very careful selection of one or other of the following remedies: kaki, hydrastis, gold thread, hyoscyamus, mineral acids, with cinchona, glycerin, papoid, pepsin, local stimulation on stomach, absolute rest in bed; nourish by enemata, selecting beef essence or tea; pink marrow suppositories; milk and lime-water, boiled arrow-root in milk for a drink, with infusion of kaki or slippery elm, of great value. In all cases there is a deficiency of mucus, as is visible in the clean, red, angry, dry tongue, hyperacid, no mucus, scanty vomit, with constipation, dry, scybalous stools, a deficient secretion of the natural protector and lubricator of the entire canal.

Ulcer of the stomach is a most important disease, usually very protracted, although easily cured by our improved reme-

dies. It is a disease of middle life, more frequent in females than males; five per cent of persons dying, from all causes, are affected with it. The most prominent symptoms of this affection are some or all the symptoms of dyspepsia, tightness, weight, gradually augmenting to a burning sensation, almost pain, which assumes a gnawing character, with a sickening depression and a feeling of goneness. Decided pain after digestion of food, which lasts for one or two hours, often vomiting, after which pain ceases. The difficulty progresses onwards and onwards; if not cured, pain in the back supervenes. The pain in the stomach is increased by pressure and the ingestion of food; vomiting is a constant symptom; in the vomited mass, the sarcinæ, yeast plant, blood, pus and mucus are often present.

Ulceration of the Neck of the Uterus.—A breach of continuity of, or on, the neck of the uterus may be the result of some injury, but more generally it is the result of inflammation, congestion, or effusion of lymph. It usually takes place about the neck. It is a condition not nearly so common as is imagined. It is true, chronic inflammation, with congestion, catarrh, and thickening of the neck, is very common, but comparatively few terminate in ulceration—few cases in which the lymph breaks down. This subject of ulceration of the os uteri is a stigma upon the medical profession, so called. In order to explain ourselves we shall deviate from the subject a little. There are a very large portion of the medical profession in the United States simply charlatans, very unprincipled, destitute of an education, because they have not brain capacity to receive it; and if they had, they have no teachers capable of imparting it; besides, most of them are but imperfect scholars in ordinary branches, and are destitute of all the qualities of a Christian gentleman. Those human vultures are so numerous that in our large cities or towns there is one to every two hundred and fifty inhabitants. They must live; and the first thing that concerns a newly-fledged M. D. is to procure a uterine sound and speculum, and on those he places his reliance for his future success and fortune. With this he becomes the great moral force of the profession, and stamps his prestige upon the page of time. Ladies, married or single, are the prey of the viper. If he is consulted about a headache, indigestion, defective vision or hearing, or even in-growing toenail, there must be a vaginal examination, as there is something the matter with uterus. This is done every time any-

thing is wrong. It is pronounced an obscure case; another introduction must be made, and another; her affections must be alienated to the scoundrel, and thus many loving wives and good daughters are made his victims—he becomes the social ruin of families.

The knaves, or charlatans, even coin new names for trifling maladies, and invent diseases. Once they get a grip, they keep on with endless examinations, speculations, applications, and treatment, and continue on for months or years at this nefarious business; and then, by some accident, the patient is removed from his care, she becomes quite well, and has no further need for speculum, pessary, or caustic.

The older members of the profession are to blame for thus letting loose annually such a horde of vultures.

Women are sensitive and imaginative, know little of physiology, but feel keenly any ache, pain, or irregularity, and attach more importance to it than there is any need to. So, if she has dyspepsia, or dysmenorrhea, and a slight bearing-down, she is much impressed, and consults one of those mountebanks; her fate is at once sealed, by the designation "ulceration of the neck of the uterus," when nothing is the matter but fatigue. It is the fashion; they live by it; it is their bread and butter. Poor lady, three times a week she trudges to his office, and has his applications applied for a disease that does not exist, and, if it did, should be cured without such a mess of degradation. This is an everyday game.

We have another class, meaner still, who go for ulceration and displacement. This class assert that there is scarcely a woman living whose uterus is where it ought to be. It is anteflexed, retroflexed, or verted this way or that way. An examination by speculum must be made; and as he gets a large percentage from some unprincipled "uterine supporter" patentee, or manufacturer, there will be a variety of contrivances tried, but none answer till his favorite is reached; and, oh! the fitting in, the adjusting and readjusting, in order to cure headache, irritation of the bladder from uric acid, or pretended albuminuria, and a thousand other ills that do not exist!

Now, where this is done by an educated gentleman, A Christian, one who knows what he is doing, and what difficulty he is dealing with, if there be one, much good may be accomplished; but when imitators, pretenders, rascals, go at it for cash, nothing but harm follows. With these fellows there are

muddling and meddling of the most disreputable kind, and patients get tired of it, their money and patience become exhausted, they give it up; and if there is something the matter, become chronic invalids, and are a nuisance to themselves, relations, and friends.

But we will not digress further.

In all cases of chronic inflammation there should be no let up in treatment until the thickening of the neck, produced by irritation has been removed by the internal use of saxifraga and aleteris, and locally by pastils of boroglycerid, white pond lily, life root.

SIMPLE ULCER, OR ABRASION.—An excoriation, or erosion of the lips of the neck of the uterus, is the simplest form of ulceration. The epithelium is simply removed from the part; the villi, with the fine network of capillaries, can be felt, velvety to the touch, or seen by the speculum; there is no redness of any moment.

Symptoms.—There is a general depression of the health; headache, and languor; leukorrhea, pain in pelvis and sacrum, irritation of ovaries, bearing-down, aching in thighs, indigestion, flatulence, with irregular action of bowels. Menstruation is likely to be disordered in some way.

Treatment.—Regulate bowels with cascara, or some mild agent; stimulate the appetite with tonics; prescribe best food, beef, mutton, poultry, milk, cream, eggs, fish, etc., and if digestion is faulty, pepsin; tonics before meals, as port wine and Peruvian bark; compound tincture cinchona and mineral acids; partridge berry and aletris cordial; sulphate quinine and aromatic sulphuric acid; gentian and collinsonia; and alteratives, as ozonized phytolacca, compound viburnum, and iodide potassa.

Locally, after it has been ascertained to exist by one speculum examination in the presence of a mother or husband, no more are necessary. Neither is the use of caustic, or other trash, of utility. The patient can now accomplish the cure herself. If married, sexual congress should be held off for a few weeks. Then begin with hip-baths, thrice daily; vaginal injections, tepid, medicated; flaxseed infusion with peroxide of hydrogen and boroglycerid; slippery elm decoction, with sulphocarbolate of zinc and soda; decoction of white-oak bark, with chinsol, with fountain syringe, in all cases followed by a pastil of white pond lily. The injections might with benefit be changed every three days, and should consist of solutions

of borax, chlorate and permanganate of potassa, lime-water, and tincture of iodine; and, after two or three weeks, astringent ones are to be introduced alternately, as infusions of oak bark, white pond lily, witch-hazel, alum. To hasten a healing process, after retiring to bed, a pastil to be inserted, consisting of either nymphæ odorata or life-root, or sulphate of quinine, or boroglycerid.

In this simple manner any lady has her rapid recovery in her own hands, and she will soon recognize it in returning health and a disappearance of the symptoms, especially the discharge.

IRRITABLE, OR INFLAMED ULCER.—This is deep-seated, involves the lips, but is vascular and red; the loops of the capillaries have given way, and there is an excavation. It is sometimes quite extensive in persons whose vital forces are feeble.

Symptoms.—All the symptoms are much aggravated, more debility, even mental depression; the leukorrheal discharge is profuse and mucopurulent and greenish; stains linen greenish; great headache, tongue coated, no appetite, anemia, neuralgia; dirty, sallow hue of skin; bowels irregular, usually constipation; pain in the back, hips, and thighs, aggravated by exercise; reflex irritation of bladder, rectum, and breasts. There is often menorrhagia in this variety.

Treatment.—The same course of treatment as for the simple form, with the exception that it wants to be carried out with more vigor; secretions active; alteratives and tonics. In form there is no remedy that fulfills all the indications so perfectly as the wine of aletris farinosa, alternated with the partridge berry, with vaginal injections of boroglycerid and pastils of life-root.

RODENT ULCER.—In the simple, or inflamed, or deeper-seated ulceration, there is found in the discharge the living germs, bacteria which render them communicable diseases to males if sexual intercourse is not avoided; but in the "rodent form," the micro-organism of diphtheria and phagadena is present in large colonies, so that it is invariably to be regarded as a severe disease; one associated with a breaking down of vital power, and not common in females who are well taken care of, or under thirty-five years of age.

Causes.—Irritation, overcrowding, meagre or insufficient food, filth, general breaking down of vital force.

Symptoms.—It is to be regarded as a perforating, eating

ulcer, with a bloody exudation; ulceration gradually and slowly extending. As it eats away, burrows, and perforates, complaint is made of heat, pain, and discomfort; thin, watery discharge streaked with blood. The constitutional symptoms are those of great prostration; headache, want of appetite, pallor, indigestion, constipation, great physical weakness; pains in back, thighs, hips; burning pain in uterus, and attacks of hemorrhage. On examination, an irregularly-shaped, eating ulcer, with ragged or indurated edges. There may be several; they all look excavated. They may be dry, or glossy, but there is always blood dripping from their edges. When vital force is very low, they may eat away the neck and body of the uterus, and give rise to dreadful hemorrhage. It is often mistaken by the inexperienced for cancer. It often destroys life, if not seen to and treated correctly before it eats into uterine vessels.

Treatment.—In the name of humanity, of good sense, and common decency, we protest against the modern treatment of rodent, or phagedenic ulceration, with such useless drugs as nitrate of silver, caustic potassa—drugs that are totally unnecessary and uncalled for in the local applications in uterine ulcer. If a caustic must be used, why not use the best, by first swabbing or washing out the uterus, and then touching with nitric acid, c. p. We repudiate caustics as barbarous, and unnecessary, when we have such invaluable antiseptics as ozone et chlorine, which could be used once every week or two, and followed by milder ones, four or five times a day. This preparation, thrown up the vagina, produces a perfect revolution in the ulcerated parts; it destroys the disease germs that are causing the eating; stimulates the sound tissues, so that they put on a healthy appearance. The injection of the ozone et chlorine once every week, or two weeks, is most efficacious; and in addition, the first day or two, linseed-tea injections every two hours, with sulphocarbolate of soda, and then injections of borax and golden seal, gold thread, and chlorate of potassa, or bayberry, lime-water, and tincture of iodine, every three hours; pastils and suppositories of boroglycerid. Alteratives and tonics, as in simple forms, with glycerite of ozone, chloride of lime, echinacea, sulphocarbolates, permanganate of potassa, and the most nourishing food.

SYPHILITIC ULCERATION.—There may be chancres on the os or neck, and colonies of germs lodged about the labia of the uterus, within the canal of the neck on the upper and lower sides.

Symptoms.—The copper-colored appearance of ulcers and mucous membrane; thickening and induration; the mucopurulent discharge is excessive from both uterus and vagina; patches of abrasions, or ulcers, are to be seen on the labia of the uterus. Menstrual function is irregular; most frequently menorrhagia. Besides, there will be syphilitic cachexia, loss of hair, enlargement of post-cervical glands, copper-colored mucous membranes, pain in ensiform cartilage and other bones at night, copper-colored eruption, nodes, mucous patches, etc.

Treatment.—Same as for syphilis, with the local treatment for rodent ulcer, which makes short work of the disease. That is, administer a tonic to aid blood formation, such as one of the cinchona alkaloids; then prescribe comp. saxifraga, with periodate aurum. Thrice daily vaginal injections of potent germicides, such as solutions of boroglycerid, sulphocarbolate of zinc and soda, echinacea, creolin, ozal, chlorozone.

UNDEVELOPED SEXUAL ORGANS.—The vacuum method of treating undeveloped mammary glands and penis is dangerous. Better to use massage, electricity, baths and saw-palmetto ointment. These are generally used locally; at the same time a selection must be made from the following remedies for internal administration; Thyroid ext. c. p. solution of spermin, matricaria, glycerophosphate of soda, saw palmetto. These remedies, two given in alternation for a week; others substituted; alternate weekly. They act slowly, but efficiently, and they increase the blood supply and improve the nutrition of the parts. They are all good nerve tonics and they influence the sexual organs very favorably. The flesh-brush daily, and if unable to take exercise, prolonged massage so as to keep up a constant flux to the brain.

UREMIA.—Generally an attendant during the last stage of Bright's disease or kidney degeneration, or some impediment or obstacle in kidney.

When from any cause the functions of the kidneys become impaired or suppressed, urea is no longer eliminated by those organs. It accumulates in the blood, producing what is termed uremia.

Probably several forms of poisoning are present, such as where the urea is decomposed into carbonate of ammonia; and when such a decomposition does not occur, probably there are also other poisons due to incomplete metamorphosis of nitrogenized waste into urea.

This theory explains the variety of symptoms present, such as stupor, coma, stertorous breathing, epileptic convulsions, intoxication, twitching.

It may come on abruptly with little warning, or may be preceded by debility, impaired vision, obstinate vomiting or diarrhea; the breath has a uriniferous or ammoniacal odor. It is invariably present in three stages of Bright's disease.

Besides being due to structural disease of the kidneys, it may be present in pregnancy and parturition, due to pressure of the uterus, producing renal congestion. Beer drinking is a common cause.

Uremic poisoning or intoxcation is easily distinguished by attention to the following points; the urine is albuminous, scanty, or of low specific gravity; edema of the cellular tissue; fits are preceded by delirium, headache or giddiness, pupils dilated and fixed, breath ammoniacal; skin emits a uriniferous odor, disease of kidneys. And if these are not sufficient, paint a portion of the skin with cantharidal collodion; from the blister so produced take the serum and place it under a microscope, and the crystals of urea are easily recognized.

The treatment of cases of uremic poisoning must be upon general principles. An attempt should be made by warm bath and jaborandi to get up a powerful action on the skin. The use of the jaborandi or its active principle does not require the use of diaphoretic teas, hence it is our most valuable diaphoretic.

One-twelfth of a grain dose of elaterin should be given every three hours, so as to get a free serous action of the bowels. If successful, benzoate of soda or benzoic acid has a wonderful effect in neutralizing this blood poison.

URETHRA, THE, ITS DISEASES.—The average length of the male urethra is seven and one-half inches during life, as judged by our graduated catheters. The length of the prostatic portion, one and one-fourth inches. The verumontanum is three-fourths of a line long, is erectile and prevents the semen from entering the bladder. The sinus pocularis is in front of this. The membranous part of the urethra is nearly all contained between the two layers of the deep perineal fascia. The spongy portion is very dilatable. When the parts are healthy a No. 12 catheter, warmed and oiled, passes with ease. The spongy portion of the urethra is the narrowest after the meatus, normal constrictions exist. There is a permanent or

subpubic curve in the urethra, which forms an arc of a circle three and a quarter inches in diameter. As a general rule the urethra is narrower at its orifice, dilated in the gland, and very slightly narrowed at the fossa navicularis; then comes a nearly uniform cylinder to the preputial angle, when a narrowing is found. It enlarges then to the bulb. We have found, by careful microscopic examination, that there are circular muscular fibres around the whole urethral canal, which accounts for the existence of spasmodic strictures, which may take place at any part of the canal. The presence of stone in the bladder, long retention of the urine, or excessive sexual indulgence may all cause spasm of longer or shorter duration. When the meatus is narrower than normal it may originate spasmodic stricture.

There is no doubt that spasmodic stricture in the membranous part of the urethra has a resemblance in many cases to organic stricture, and is often caused by irritation reflected from the anterior portion of the urethra, and many uneducated physicians fall into that trap.

The analysis of urethral stricture, which we laid down some years ago, dividing them into single, multiple, complicated cartilaginous or undilatable, is probably the best ever offered to the profession. Classifying altogether, about one-half are single strictures, in all parts of the canal, near the bulb, in the membranous and spongy portion. In multiple stricture, the first constriction is usually about two inches from the meatus; the second, about half way between this and the bulb, and third about the bulbomembranous junction. The character of the first and second of these is usually nodular; the third, usually fusiform; varying from one-third to three-quarters of an inch in length, and in size from a pea to a marble. Some are very old, even from twenty to thirty years' duration. A stricture generally consists of an effusion of plastic lymph in the form of fibres surrounding the canal, like a thread or band, or bridle or valvular. The lymph effused in the submucous tissue of the urethra generally gives rise to gleet; the lymph thrown out becomes organized, and the normal elasticity of the canal is lost. We have met with many cases in which an indurated chancre has caused stricture. Cases of stricture in the prostatic portion of the urethra are rare, they are almost exclusively limited to the bulb and spongy portion. Stricture may involve the canal to the extent of half an inch to several inches, and the urethra in those cases becomes irregular or tortuous.

The urethra generally becomes dilated behind the stricture; the mucous membrane becomes inflamed, which causes a gleety discharge to appear from the urethra. The walls of the bladder become greatly thickened in all cases of stricture, and if the stricture be a bad one, pouched or sacculated. The urine in these cases becomes decomposed, the evolution of the micrococcus urinaris takes place; bladder becomes inflamed, thickened, soft, pulpy, and much diminished in size. The ureters and pelvis of the kidneys also become dilated, whilst the medullary portion is atrophied. The ejaculatory ducts also suffer enlargement, and the seminal vessels are often filled with purulent matter, and the prostate is always seriously damaged.

A gleety discharge from the urethra, combined with a frequent desire to pass water, is an early symptom of stricture. The stream of urine is diminished in fullness and projected feebly, whilst it is at times spiral, forked, twisted or flattened. Usually there is a pain in the small of the back, perineum and behind the pubes. In bad cases, the urine constantly dribbles away, and the patient is supposed to have incontinence of urine.

The irritation of the parts gives rise to nocturnal emissions and impotency.

After exposure to wet, cold, or drinking malt liquors, retention of urine takes place, in which there is great suffering.

Stricture may be caused by any kind of irritation which is capable of producing urethritis, but the germ of gonorrhea is its most common cause. Masturbation, frequent seminal emissions give rise to it. Venereal ulcers, the micro-organism of warts in any part of the urethral mucous membrane may be the foundation of stricture.

Subacute inflammation of the prostate and urethral hyperesthesia are often mistaken for stricture.

With regard to instruments for exploring the urethra, it must be confessed that the standard, No. 12, is the best; then, if the stricture be large, a No. 6.

The recumbent posture is the best for passing the catheter and exploring the urethra. The patient lies on his back with his shoulders raised, the knees drawn up. When the instrument has been slowly passed down to beneath the pubes, the shaft is brought down to the median line, and the handle elevated to the perpendicular and depressed beneath the thighs; if difficulty occur the left finger may be depressed behind the scrotum or passed into the rectum.

Now, it must be remembered that, in some persons, the

simple exploration of the urethra by a silver catheter may provoke an attack of urethral fever of an intermittent type, which yields to the antimalarial remedies.

We have repeatedly called the attention of the profession to the value of the iodol bougies, soluble ozonized, as the perfection of all treatment; for, if a metallic sound can be introduced and its insertion followed by one of those iodol bougies, we will soon witness its absorption and dissolution.

The iodol bougies have effected a complete revolution in this hitherto obstinate affection.

The iodol bougie in stricture is a success, it causes the effusive lymph to melt away into a hundred shreds; its use is never attended with any danger; requires no detention from business; and possesses the faculty of widening the calibre of the entire canal.

It is a most available remedy in all morbid states of the urethra.

The mucous membrane of the urethra has a remarkably absorbent power—keenly active—for if a decoction of golden seal be injected, it can be easily tasted in the mouth. This has been utilized; ozonized soluble bougies of damiana are inserted, which have a remarkable effect in rousing up, strengthening, energizing, lost sexual power.

The salix nigra bougie, a vitalizer, anesthetic and astringent, inserted into the urethra, up against the mouths of the ejaculatory ducts, has alone cured many thousand cases of seminal emissions.

The saw-palmetto bougie does much to alleviate prostatic maladies.

Sulphocarbolate of zinc bougie is excellent in a weeping penis.

The urethra is the abode of the gonococcus; it is the evolution of masturbation, of promiscuous sexual congress.

First urinate, wash out urethra with ozonized distillate of eucalyptus; insert an ozonized thallin bougie; and take llaretta. He suffers annihilation.

Warts, vegetation in the urethra, resemble stricture in symptoms, give rise to a watery, mucopurulent discharge in which the microbe of warts can be isolated; extremely contagious.

For this the ozonized oil of thuja is a specific. It may require two or three applications before it is thoroughly eradicated.

Warts, the pathogenic microbe of which is found not only in

the urethra, but upon the prepuce and corona glandis. Sometimes only a few are to be found, in other cases they are numerous, and as they are due to a microbe, extremely contagious and infectious.

Simple as they appear to be they are usually troublesome to both physician and patient.

Due to a special pathogenic microbe which is independent of all other organisms; they really cannot be classed as venereal, although they are very generally the outcome of impure sexual congress.

Ligation, caustic, crushing, excision, are of no utility, but give pain, and a liability to hemorrhage, and a recurrence. The best treatment of this form of wart is great cleanliness, washing them thrice daily with a solution of boroglycerid, dry well, subsequently painting them with the oil of thuja occidentalis ozonized; also administer the same internally, in doses of from fifteen to thirty drops, thrice daily, in water, so as to sterilize the blood.

This remedy is prepared in the same manner as the mullein oil, by the aid of polarized sunlight, and peroxide of hydrogen.

Moses, the great law-giver, deserves the gratitude of his race for instituting the sacrament of circumcision.

For all Christians with a short or long prepuce, a tight or loose foreskin, if not carefully retracted and washed daily, will have a sebaceous secretion accumulating underneath, in which an evolution of a special pathogenic bacillus will take place.

This micro-organism is found in the smegma and secretions of the mucous membrane of the external genital organs, which in shape and reaction is almost identical with the bacillus of leprosy, but easily distinguished from it. The smegma bacillus is completely decolored by immersing the dried and stained preparation in a thirty-three and one-third per cent. solution of nitric acid, and subsequently in alcohol. In specimens thus treated the bacillus disappears, while the leprosy bacillus thus treated remains deeply stained. The bacillus of smegma is completely sterilized and annihilated by boroglycerid.

The parts should be bathed every morning with Castile soap and hot water, well dried, then a saturated solution of boroglycerid applied and permitted to dry in.

Urethral Contagion.—In considering the various conditions of the urethra of which the presence is denoted by gleet, the question arises of the duration of contagion. This in most cases is difficult to answer, and in many cases impossible to do

so absolutely. As a means of deciding the question, it has been concluded that when the gonococcus can be no longer detected in the discharge it is justifiable to advise that the secretion is bereft of contagious power. This faith in the peculiar essential cause of gonorrhea may be justified, but in the present uncertain state of our knowledge of the precise influence of gonococcus as a factor of gonorrhea it is rash to assume that in the absence of gonococcus from any particular drop of discharge the danger of contagion is past. We are sorry that we can offer for your consideration no definite rule for deciding this question, but we are inclined to think that when the discharge is secreted entirely from granular patches, the crypts and ducts of glands having ceased to furnish pus, we may consider the discharge to be no longer specific in character or capable of communicating disease to others. I base this opinion on the fact that these granular patches have no dissimilarity from granular patches on the pharynx or other mucous membranes, which, being simply products of chronic inflammation, therefore probably secrete only a harmless, non-specific pus. But when the various channels along which acute gonorrheal inflammation may pass, the numbers of ducts and crypts into which it may penetrate, are recollected, we must be prepared to admit that the duration of the contagious power of the urethral discharge after acute gonorrhea is unlimited, and to forbid sexual commerce until the gleet is quite cured. The gynecologist has made out a formidable list of affections attacking newly married women whose husbands are suffering from slight urethral discharge; which, giving no pain or inconvenience to the patient, has ceased to attract attention until the unfortunate wife is afflicted by some serious illness of an undoubtedly gonorrheal character.

The changes in the urethra from the presence of the gonococcus are very numerous, as nodules, ridges, bridles crossing the passage. In one urethra there may be a dozen different patches, some old, gray, and shrunken; some dull red, but unyielding; some covered by granulations.

INFLAMMATION OF THE URETHRA.—May exist in either an acute or chronic form, independent of the venereal poison, or so-called gonorrhea.

Causes.—May be due to mechanical violence, passage of calculi, strains, blows, excessive sexual congress; the catamenia or rankness in some ladies give rise to it, as well as masturbation in some men of sanguine temperament; horseback exercise.

Symptoms.—Pain, heat, redness, swelling; very great pain in micturition if urine is acid; mucopurulent discharge; irritability of bladder; there may be chordee, a bent or crooked condition of penis during erection, from a lesion of its erectile fibres; if so, there may be blood; lips of urethra often much swollen; often retention of urine, with fever and constitutional disturbance.

The discharge is cantagious, because it is heavily loaded with bacteria, with a few ameba. If severe, liable to give rise to stricture and gleet, same as gonorrhea.

Treatment.—Rest in bed; hot hip-baths; open bowels with salines; keep urine alkaline with nitrate of potassa and cream of tartar, drinks of linseed tea, tincture of green root of gelsemin in thirty-drop doses, every three hours; when inflammation has subsided, mistura llaretta, or kava-kava or golden tincture. Chronic form, use same remedies.

Stricture of Urethra.—Effusion of lymph either as a band, or flattening in the lower aspect of the urethra.

The urine passing with difficulty in a diminished stream, flattened, spiral, twisted, divided.

Three forms: (1) due to spasm of muscular fibres; (2) due to inflammation; (3) due to the effusion of lymph, causing contraction, narrowing, or a band across inferior aspect of canal.

In all cases, a careful diagnosis from enlarged prostate, irritable bladder, abscess in perineum, dilated urethra, diseased kidney.

1. Due to spasms, use cocain suppository.

2. Due to inflammation, use cocain suppository, and gelsemium internally.

3. Due to effused lymph, organic stricture.

Incision, burning, tearing by dilating, all false, erroneous. Absorption the only true, sure method of cure. Saxifraga internally, ozone ointment and metallic bougie for half an hour three times a week, gradually increasing the size of the bougie from one that passes easily to a No. 12.

Permanent stricture of the urethra due to effusion of lymph, either on the circular muscular fibres, or as a longitudinal infiltration, is much more common than is generally recognized.

All forms of irritation may give rise to it—gonorrhea, masturbation, acid urine, exposure to cold, wet, etc.

The earliest symptoms of permanent stricture is the retention of a few drops of urine in the urethra after the patient has

made water, which drops soon escape and slightly wet the linen; the bladder also becomes irritable, being compelled to get up during the night to urinate.

As it increases there is a discharge of mucus from the urethra, attended with a sensation of itching, heat and pain in urinating. The stream of urine very speedily becomes forked, spiral, flattened or scattered, which is so eventually reduced that it is voided by drops.

At this period the slightest imprudence, either in diet or exposure to cold or intemperance—anything liable to disturb the general health—is liable to be followed by suppression.

It therefore behooves every man who has a dribbling, a moisture, a gluing of the lips of the urethra in the morning, to have his urethra examined to ascertain if there be a stricture or thickening from effused lymph, and if there be, have it removed.

Now this is not to be done by incision, neither by burning it nor by laceration, for if a cure is attempted in that way it will certainly return.

Cure only by absorption, which is reliable, permanent.

Daily or every other day a metallic sound or bougie should be inserted and retained for ten minutes. When withdrawn it should be immediately followed with an ozonized soluble iodol bougie, which is to be retained until it completely melts away.

The retention, the absorption of three grains of iodol in the urethra, very rapidly makes away with all thickening, all obstructions in the canal, and gives a never-failing cure.

Many men are erroneously treated for gleet, leaking, gluing of the lips, for prostatic and bladder diseases, when it is simply permanent stricture.

URIC ACID CRYSTALS.—From imperfection aeration of blood, malassimilation, carbonaceous food, malt liquors; uric or lithic acid accumulates in the blood, kidneys, where it gives rise to most excrutiating pains in the loins, nephralgia, irritable bladder, burning sensation in urinating.

In the treatment remove all causes; alkaline baths, free action of bowels; select some of the following remedies:

Nitromuriatic acid; nitric acid and cinchona, ozone water; hydrangea; gelsemium, uric acid solvent, pichi, benzoic acid, peroxide of hydrogen.

A most excellent formula in such cases is the following:

Take of biborate of ammonia, one ounce; water, one pint. Mix. A tablespoonful before each meal. Or, take half an ounce of biborate of ammonia; uric acid solvent, four ounces. Mix. One teaspoonful before meals.

URIC ACID DIATHESIS.—There is no malady so prevalent in the United States as the uric acid diathesis—no condition of the body so productive of other grave maladies. The origin of lithemia may either be from a gouty diathesis, or from a poverty of nerve force (in this form neuralgia, frontal headaches, vertigo, tinnitus aurium, weariness in limbs, muscular pains, spinal irritation, or vasomotor disturbance, are prominent), or from various forms of dyspepsia, catarrhal, heptic torpor (gastric catarrh, disturbance in the epigastric region, acid eructations, furred tongue, dilated stomach, sluggish bowels, drowsiness, are chief symptoms). No case of lithemia exists without less or more interstitial nephritis, and more or less of the increased tension of the arteries. The headaches are not due to cerebral lesion, but to urea in the blood. The diagnosis of lithemia rests solely upon the presence of uric acid in the urine and blood; acid fermentation with hepatic sluggishness, deep color of the urine.

An affection like lithemia, due to monotony, sameness, malaria, beer drinking, overcrowding and the like, requires an energetic treatment.

The daily use of the uric acid solvent for a few months has a remarkable effect upon the liver in rousing up its interstitial activity and neutralizing the acid, thus obviating the headache, cramps, spasms and other symptoms.

The ozonized uric acid solvent has the power of preventing the formation by arresting the fermentation, the evolution of bacteria, as well as dissolving all uric acid crystals.

Clinical observation of many thousand cases attests its wonderful efficacy, that it is the best agent we possess for that purpose, of much more utility than all the synthetical compounds put together. Its administration never disappoints.

In phosphaturia, one of the common sequels of the uric acid diathesis, it is brilliantly effective in ridding the body of all visible phosphatic secretions.

Individuals affected with phosphaturia suffer much from frequent micturition, dysuria, itching and pricking sensations in the perineum, shooting pains extending into the renal regions and limbs, weakness of the lower extremities, general debility, etc.

Administer, in these cases, the ozonized uric acid solvent, in small doses, and it causes the phosphaturia to disappear, and thus completely wipes out cystitis and pyelitis, changes the whole aspect of affairs for the better.

It is decidedly inhibitory to the formation of uric acid, and to the evolution of all urinary bacteria; besides, it exerts a most beneficial action upon the whole body, inimical to all pathogenic microbes.

Very eminent authority shows that, independent of morbid conditions, uric acid is a derivative of animal food, beer drinking, monotony, isolation, besides being responsible for very many pathological states.

"To dispose thoroughly of a meat diet, requires active, vigorous digestion, fresh air;" change, active growth and development; in adults who have attained the maximum of growth, body completely built up, all that is necessary is food, fuel, to run the machine, repair waste, keeping at the same time secretions active. The trouble with our people is eating too much animal food, carbonaceous drink, which is imperfectly digested, neither oxidized nor eliminated, but lingers in the body in the form of nitrogenized mast or uric acid; true restricting the diet to two full meals daily, well eaten, proper quantity and quality is sufficient for brain and muscle, with daily baths and massage.

The symptoms of the uric acid diathesis depends greatly upon the degree of saturation, whether these be simply enough to circulate in the blood, or to form a precipitation in the urinary organs, or merely periodic attacks, spring, fall and damp weather, with a varying susceptibility, but always irritating weakened tissue. One man may have it in an overtaxed brain, another in his exhausted back, another in his devitalized bladder and prostate, another in his head from excessive worry or fret. In every ache and pain, indigenous to civilized man, uric acid, perverted nutrition is the origin of the trouble, and it must be eliminated or neutralized, its excessive formation checked.

Uric acid, being simply the ashes of muscular structure, a product of destructive metamorphosis in malnutrition, it must be eliminated by the administration of the ozonized uric acid solvent—its formation must be prevented, by all possible means calculated to improve the general health and a perfect dietetic reform.

In this very general form of human suffering there is little

use in placing reliance upon fraudulent preparations of the lithium salts, when we have in this preparation one much more efficacious.

Uric acid, head and heart ache, due to its presence in the blood, disturbs the vasomotor system of nerves, giving rise to spasm of the arterioles, damming the blood in the great arteries and heart—in this condition the blood needs the action of the uric acid solvent, which cleanses the blood, completely overcoming the condition of lithiasis.

A condition in which we have uric acid in excess in the blood and secretions, the result of destructive nitrogenous metabolism, with lack of elimination. Uric acid is formed in the liver and spleen and excreted by the kidneys in the form of urates. In gout and anemia it accumulates largely in the blood, as a result of defective oxidization.

Monotony, isolation, sorrows, want of exercise in the open air, indoor life or occupation, mental strain, worry.

The symptoms of the uric acid diathesis, excepting gout and rheumatism, are protean in number and variety and are exceedingly hard to classify. Among those affecting the digestive system are anorexia, discomfort after eating, flatulence, pyrosis and persistent constipation; of the urinary organs, a sense of heat and burning after micturition, frequent micturition and pain over the region of the kidneys; the pulse may be irregular and intermittent, there is increased arterial tension and sometimes attacks of palpitation, and there is generally present great depression of spirits and a general sense of weariness and inaptitude for effort of any kind. The sleep is restless, and on awakening in the morning the patient feels as tired or even more so than on retiring.

When this acid irritates the nervous system there is vertigo, amaurosis, tinnitus aurium, muscular pains and cramps, headache, neuralgia, affecting various parts of the body, spinal irritation, vasomotor disturbances, insomnia, nervous prostration; heat and burning in the skin, itching, pruritus, choreic and epileptiform seizures, mental hallucinations, are not uncommon.

The urine of individuals suffering from the uric acid diathesis is highly acid, of a dark golden color, and contains a sediment of uric acid crystals, seldom deposited pure, but in combination with other salts, forming urates.

As to the treatment of the uric acid diathesis, much has been written, many remedies advocated, and extensive clinical experience tested their utility.

No remedy in the materia medica so highly esteemed and appreciated by the profession as the ozonized uric acid solvent. In this remedy we have a combination of the most valuable description with the salts of lithia and potassa, a powerful solvent and efficient eliminator. Its use is always followed by the most beneficial results.

At the time this chemical solvent is being administered, it is found extremely advantageous to prescribe before eating a full dose of the comp. tincture of matricaria in a glass of water. Always best to aid it with daily bathing, half an hour or more massage, flannel clothing, considerable outdoor exercise, some occupation that will absorb attention, wipe out melancholia, and regulation of diet.

OZONIZED URIC ACID SOLVENT.—This remedy is one of great value, being composed of vegetable agents that have a direct solvent action on uric acid and negative ozone; it is of value and great efficacy in all derangements and diseases of the kidneys, which have their origin in an excess of uric acid in the blood, particularly in incipient Bright's disease, diabetes, cystitis, dropsy, calculi, hematuria, rheumatism, neuralgia, angina pectoris, and functional disorders of the heart.

In the neurasthenic condition of our people, anemia of the brain is decidedly common, and uremic amaurosis, caused by edema of the structures of the optic nerve, from irritation of the urea in the blood, is not only prevalent but persistent.

In the treatment of ocular affections occurring in renal disease, the pushing of this remedy is often the best that can be done for the eyes.

The part that the uric acid plays in the production of morbid conditions is now fully recognized. It is accountable for a long train of symptoms—many obscure, many not easy to formulate.

There is reason to believe that nearly all cases of periodic, or paroxysmal headache, melancholia, neurasthenia can be traced to this cause. Then rheumatic affections, tonsillitis, cutaneous irritation, as in the various forms of eczema, anemia and menstrual disorders.

Uric acid in the blood must be recognized as a powerful factor in the causation of diseases.

Normally, uric acid is simply the ashes of the fibrin of the blood and muscles; abnormally, it may be due to many other causes; certain foods and drink are most productive of it, in-

dependent of dietetic indiscretion; nervous shock and prostration, monotony; gout, including certain hereditary traits; visceral sluggishness, growing old, and the inability of the organism to accommodate itself to the change of environment; climate, and probably the prime mover in the production of uric acid is the distinction between healthy youth and maturity.

Every one of our readers realizes that the only solvent for this acid in the blood, in the renal organs, is the ozonized uric acid solvent. This remedy is not in itself curative, but dissolves and aids its elimination. To render this remedy palatable administer it in some light wine.

To cure the uric acid diathesis banish care, worry, regulate the diet, overcome the sluggish liver with periodate aurum, matricaria, or a prolonged use of concentrated kurchicin, with daily baths and massage.

Uric acid in the blood, circulating through the kidneys, acts as an irritant and excites a growth of connective tissue, which blocks up and destroys the secreting faculty of those glands; the lodgment of this acid in the kidneys cripples their function; they become inadequate as depurators of the blood; interstitial nephritis is the outcome of the uric acid formation, which in such cases is liberated freely from the liver.

Alcohol, carbonaceous food and drink, malaria, insanitary states cripple the liver by too much work, and an excess of uric acid is the result. The use of the ozonized uric acid solvent has a most salutary effect upon both liver and kidneys. It is a remedy that flushes the tubules and relieves the congestion—the renal inadequacy.

The physiological action of this remedy is based on the recognition that the uric acid in the body can only be got rid of by a process of oxygenation, and it must pass off by the kidneys, never by the bowels. Purgatives do no good, simply deplete and leave the renal secretion concentrated, so that the uric acid requires a very large proportion of fluid for its solution, blocks the tubes of the kidneys in the form of crystals.

Very generally administered in lithiasis, in chronic cystitis, irritability of the bladder, chronic rheumatism, neuralgia. In cases where it is necessary to bring about a solution of the urates, the following formula proves invaluable: Ozonized uric acid solvent, one ounce; simple elixir, three ounces; mix. A teaspoonful once in three hours.

In typical cystitis, with vesical tenesmus, irritability of the bladder so great that retention of urine is impossible; in the

above doses symptoms rapidly decline, mucus, pus, micrococcus ureæ disappear and retention of urine becomes possible.

In suppression of urine, from uric acid irritating the kidneys, the action of this preparation is simply marvelous, diuresis appearing, the urine becoming abundant and free from all abnormal substances.

URIC ACID SOLVENT (*Ozonized*).—Most efficacious in dissolving uric acid concretions or formations in both liver and kidneys. No remedy so effectually relieves a crippled kidney as this; it dissolves and washes the *débris* away, and renders the kidneys able to act as depurators of the blood. It relieves renal inadequacy by its solvent action, flushes the tubules and obviates the state of interstitial obstruction.

Dose.—From a half to one teaspoonful added to water every two or three hours.

URINALYSIS.—In the examination of urine the specimen should be taken from the whole quantity (well mixed) passed in twenty-four hours—that passed, say, from 7 o'clock one morning to the same hour the following morning, and should be tested before decomposition sets in. The principal points of note are enumerated in the following:

Quantity.—The amount voided in twenty-four hours varies, normally, within wide limits. The normal amount is usually stated as fifty fluidounces.

Increased.—By excessive ingestion of liquids, as water, beer, milk, etc.; by cold and damp weather and other conditions interrupting cutaneous transpiration; in diabetes, hysteria, in contracted kidney and waxy disease of the kidney.

Decreased.—By ingestion of small quantity of liquids; in hot, dry weather (excessive perspiration); in diarrhea; in febrile conditions; in the earlier stages of dropsies; in certain forms of Bright's disease.

Color.—The color of normal urine is that of amber or slightly reddish-yellow. The color of urine is much affected by food and medicine, as well as by many morbid conditions. Santonin colors it a bright yellow; pyoktanin, a blue; madder, logwood, rhubard, a red or brownish-red; strong coffee, turpentine, creosote, carbolic acid, etc., render it dark. A red or smoky color may indicate blood; greenish-yellow or brown, bile; whitish or turbid, earthy phosphates (excess), pus, or mucus.

Decreased quantity of urine is usually accompanied by increase in color, as in febrile conditions, etc., and *vice versâ,* as in diabetes, hysteria, etc.

Reaction.—Determined by the use of litmus-paper—acid turns the blue, red; and alkaline, the red, blue. The normal reaction of the urine is *slightly acid,* though at times it may be neutral. Nitrogenous food increases acidity; vegetable food decreases it. Some drugs influence the reaction of the urine, *e. g.,* organic acids (citric, tartaric, etc.), and their salts with the alkali bases render the urine less acid. Mineral acids render the acidity greater. Alkalinity is generally due to decomposition of urea into ammonium carbonate, seen in retention, cystitis, etc. In this case, gentle heat will restore the red color of the litmus-paper used.

Odor.—Normally, characteristic, urinous. Concentration increases odor. Many foods, as asparagus, and drugs, as cubeb, turpentine, etc., greatly influence the odor. Turpentine gives the odor of violets. In diabetes mellitus, it is fragrant; in cystitis, retention, etc., with decompositon, it is fetid.

Specific Gravity.—Most conveniently ascertained by means of a urinometer. The urine should be at or very near the temperature at which the urinometer was graduated (generally 60 degrees F.), and in a vessel sufficiently large to permit the instrument floating free of the sides. Read the sp. gr. from the top of the meniscus, on a level with the eye. The sp. gr. of normal urine is 1,015 to 1,025. In infants it is low—1,007 to 1,012. By multiplying the last two figures of the sp. gr. by 2.33 (Haser's coefficient) a close approximation to the number of parts, per 1,000, of solids contained may be obtained, and from this the total amount of solids passed in twenty-four hours may be easily calculated, which is normally fifty-three to sixty-seven grams (800 to 1,025 grains).

Increased.—In diabetes mellitus; in cyanotic induration of the kidney; in acute diffuse nephritis; in concentrated urine, etc.

Decreased.—In diabetes insipidus; in Bright's disease; by fasting; in copious quantity of urine, etc.

AVERAGE COMPOSITION OF NORMAL ADULT URINE (LEHMAN).—Water, 932.019; solid matter, 67.981; urea, 32.909; uric acid, 1.098; lactic acid, 1.513; lactates, 1.732; water extract, 0.632; spirit and alcohol extract, 10,872; sodium chloride, ammonium chloride, 3.712; alkaline sulphates, 7.321; sodium phosphate, 3.989; calcium and magnesium phosphates, 1.108; mucus, 0.110.

VARIATION IN QUANTITY OF NORMAL CONSTITUENTS.—*Uric Acid—Tests.*—A roughly approximate test of the diminution or increase of uric acid in urine may be applied as follows: Place in a test-tube two fluidrams of the urine to be examined and the same quantity of normal urine in another test-tube. Now acidulate each with hydrochloric acid and set aside for twenty-four hours. A comparison of the two sediments (uric acid) will show the relative amounts.

Increased.—Excess nitrogenous food; excessive tissue waste; diminished oxidation; gout; rheumatism; general malassimilation; diseases of the liver.

Decreased.—By vegetable diet; exercise; in chronic Bright's disease, etc.

Urea—Tests.—Place two fluidrams of urine in a test-tube, add one-half fluidram of colorless nitric acid and set the tube in ice-water. If urea is in excess, the characteristic crystals of urea nitrate will be precipitated. Increase of urea raises the sp. gr. of the urine. If the sp. gr. of the urine is lower than normal and no precipitate is obtained by the above test, evaporate two fluidrams of the urine to one-half its bulk, then apply the test as before. If no precipitate, the urea is below normal.

If there be no abnormal ingredients present, *e. g.*, glucose, albumin, etc., the urea present may be approximately estimated by calculating the amount of solids present, as given under specific gravity (*vide*) and dividing the result by two.

Increased.—In febrile conditions; by excess of nitrogenous foods; in diabetes; epileptic attacks; during administration of phosphorus, arsenic and alcohol.

Decreased.—In diseases of the liver, acute yellow atrophy, carcinoma, etc.; in faulty excretion due to renal disorders, biliary colic, etc.

Chlorides.—Place in a test-tube two fluidrams of the urine to be examined, and in a companion tube the same quantity of normal urine. Acidulate each with nitric acid, add a solution of silver nitrate (1-50), enough to precipitate the chlorides, set aside and let settle. A comparison of the two precipitates will show variation from normal.

Increased.—By abundant drinking of water; increased ingestion of common salt; immediately following the crisis of acute febrile diseases, pneumonia, etc., if favorable termination is indicated.

Decreased.—In diarrhea; in rapid formation of large trans-

udations; acute febrile conditions, especially just prior to the crisis; acute and chronic diseases of the kidneys with albuminuria; chronic diseases.

Phosphates.—Put into a test-tube two fluidrams of the urine; make decidedly alkaline with a few drops of solution of caustic potash, boil and set aside for precipitate to settle. At the end of twenty to twenty-five minutes the precipitate should be about one-eighth the bulk of the urine, if the quantity is normal.

Increased.—By excess of nitrogenous food; in inflammatory diseases; mental strain; traumatic meningitis; acute rheumatism; rickets; extensive bone disease.

Decreased.—In epilepsy; maniacal paroxysm; melancholia; general or sexual exhaustion.

Note.—The above simple tests are not given as yielding scientifically accurate results, but are only intended for rough approximation, which frequently will be of service to the physician in his clinical work. More elaborate and accurate tests will be found in any of the reliable works on urine analysis.

TESTS FOR ABNORMAL CONSTITUENTS.—*Albumin.*—Place in a test-tube two fluidrams of urine and heat to boiling. Add ten or twelve drops of nitric acid. A small amount of albumin is shown by a slight diffuse cloudiness, a larger amount by a more or less flaky deposit; if considerable quantity, a firm mass will be formed.

Heat Test.—Filter the urine if necessary. The urine must be slightly acid; if not already so, add a drop or two of acetic acid. Now boil some in a test-tube. The presence of albumin will be indicated by an opalescence, a cloudiness, or a precipitate.

Note.—Urine containing pus or blood always contains albumin.

Picric Acid Test.—Picric acid has the advantage of being a test both for albumin and glucose (sugar), and its application in both is here given.

In a test-tube add equal volumes of the urine to be tested and a saturated aqueous solution of picric acid. The albumin, if present, is coagulated and is shown as a turbidity or a flaky precipitate or a heavy mass owing to its quantity.

If there is no albumin, ann sufficient solution of caustic potash to make the mixture alkaline and boil. If sugar is present, the mixture will be colored a dark red or brown, or black, the color dependent on the amount of sugar present.

Glucose (Sugar)—Picric Acid Test.—See under Albumin.

Trommer's Test.—To a small quantity of urine in a test-tube add a small amount of solution of copper sulphate, being careful not to get an excess of the latter; make strongly alkaline with solution of caustic potash and boil. A yellow or red precipitate indicates sugar.

Moore's Test.—Add to the urine about one-fourth its volume of caustic potash solution and apply heat. If glucose be present, the color of the mixture will become dark yellow or brown, and an odor of molasses will be evolved. Nitric acid added will more or less completely destroy the color.

Biliary Matters.—Biliary coloring matters occur in the urine in different forms of icterus, and color the urine yellowish-brown, deep brown, greenish yellow, or nearly pure green. The foam produced by shaking the urine possesses a yellow or greenish tint.

Gmelin's Test—Rosenbach's Modification.—Filter the urine through a very fine filter. Apply to the filter, after the urine has all passed through, a drop of yellow nitric acid. A pale yellow spot will be formed, surrounded by a play of colors—red, violet, blue and green.

Pus.—The best means of detecting pus is the microscope, but Donne's pus test may be applied. Let the urine stand in a test-tube, or, better, a conical glass, until the sediment is well settled; then carefully pour off the supernatant liquid; now add to the sediment a few drops of a strong solution of caustic potash and stir. A thick, slimy, tough mass will be formed.

Blood—Guaiacum Test.—Place in a test-tube equal volumes of tinct. guaiacum and old turpentine which has been exposed to the action of the air under the influence of light for some time, and hence has absorbed oxygen. This mixture should not have the slightest blue color. Now cautiously add the urine to be tested. If blood be present, a ring will be formed at the union of the two liquids—changing from a bluish green to a blue color. Pus in the urine gives the same reaction, but can be differentiated from blood in that the former does not require the ozonized turpentine to obtain the reaction. The blue produced by pus is dissipated by heat; that by blood not.

URTICARIA (*Nettle-rash*).—A skin disease characterized by the appearance of stinging, itching, red wheals. There is very slight constitutional disturbance. It is usually due to some error of diet, giving rise to bacteria.

Treatment.—Cooling lotions of lead and borax. Powdered starch with some oxide of zinc dusted on the part. Purgation, and a light nutritious diet. Give concentrated tincture echinacea ozonized.

UTERINE CATARRH.—Intrauterine catarrh, one of the most common maladies of the modern female.

Catarrhal, or croupy inflammation of the mucous membrane lining the internal cavity of the uterus.

Causes.—Ovarian disease; frequent abortions; the irritation of instruments; drugs, as bromide of potassa, sabina, aloes; sudden suppression of menses from cold or damp; masturbation, mental excitement, torpid liver, tight lacing, gout, rheumatism; incompatibility in married life.

Gonorrhea, sexual excesses, sexual incompatibility, metritis, miscarriages, retention of the products of conception, the introduction of the uterine sound, metastasis of disease germs, and the like, which give rise to a partial death of the intrauterine mucous membrane, leaving it weak, relaxed, pouring out its mucous secretion, in which an evolution of the ameba, yeast plant, and sarcinæ takes place. The bacterial products of the growth of these germs—toxins—give rise to a feeling of goneness; a so-called hysteria, headache, dyspepsia, bloating, with an indescribable burning in the hands and feet; a germ-laden leukorrheal discharge, most copious after getting up, which is intensely acid.

The sequelæ are sterility, dysmenorrhea, and ultimately the cancer neoplasm puts in an appearance.

Symptoms.—It may be met with in either an acute or chronic form. In the acute variety, the skin is dry, hot; general irritability, some fever, sallow complexion, loss of appetite, considerable headache, pain in loins and lower part of abdomen, sacrum, groin, and inside of the thighs. A sense of great heat and fullness about the pelvis, and bearing down. Bladder very irritable; a desire to pass water every few minutes, which is loaded with uric acid. Diarrhea and tenesmus, and subsequently constipation. Tenderness on pressure over ovaries and uterus. After a day or two, thick, ropy, tenacious discharge, which, after awhile, becomes mucopurulent, and is tinged with blood, and imparts a greenish-yellow, or greenish-red stain to the chemise, or other body linen. There is often piles.

The chronic form is the most common, and runs a tedious course, with headache, languor, lassitude, debility; great mental depression, obstinate dyspepsia, flatulence, and constipation. A sense of weariness, if not pain, about loins, sacrum, groin, inside of the thighs, and bearing down. The discharge now is thick, ropy, tenacious; very abundant, glairy, like white of egg. Often, under the microscope, the sarcinæ and yeast-plant germs can be detected in it. The discharge is most abundant in the mornings, accumulating in uterus overnight, or after lying down awhile; indeed, in bad cases, after being in the recumbent posture for some time, it will flow right out. The debility increases, and a train of other symptoms set in, as hysteria, convulsive affections, nausea, vomiting, tympanitis, tenderness of breasts, and menorrhagia, if the lining covering the fundus is involved.

At least two-thirds of American ladies are victims of intra-uterine catarrh. Most experienced physicians find this malady difficult to manage; nay, some pronounce it incurable, simply because they have failed to realize that the cavity of the uterus, with its entire mucous membrane, is but a colony of millions of microbes, factors of morbid action, the precursors of cancerous deposit.

Success in these cases is to be obtained by common-sense treatment. Never inject the uterine cavity in these cases, never insert bougies prepared of any drug. Simply wash out the vagina with a tepid solution of boroglycerid, or peroxide of hydrogen; and subsequently have the patient insert a pastil of white pond lily at 9 and 12 a. m., and one at 5 p. m., and on retiring for the night one prepared from the oil of thuja. These, in my hands, have been of sufficient power to annihilate the yeast plant, ameba, sarcinæ, etc.

These pastils must be inserted well up against the os uteri; the patient in the recumbent position for an hour; used for three weeks out of every four for three or four consecutive months. This is indispensable, as the uterus is considerably dilated and its walls much thickened.

At the initial period of treatment invariably place the patient upon full doses of the wine of the aletris farinosa. This is a most efficacious remedy, as it induces contractility of the body of the uterus as well as its walls; it tones and vitalizes; being a restorative of great power.

With this treatment comes a change—a drying up of a morbid secretion, with no auto-infection; a diminution of stricture,

with every infective germ wiped out, an alkaline secretion re-established, and the once barren fertile and strong.

The ozonized wine of aletris farinosa excels all remedies as a uterine invigorator.

UTERINE TUMORS.—Of all organic diseases of the uterus that manifest themselves during the period of sexual vigor, non-malignant tumors are the most common; and there can be little doubt but that the causes that tend to produce chronic inflammation are the same as cause those growths. They may manifest themselves in various ways. There may be a general hypertrophy of the muscular fibres, with a deposit of fibrin, causing a general increase of size; and the condition may progress on and on until fatty degeneration is reached—a condition of non-contractility which gives rise to hemorrhage.

FIBROID TUMORS.—A condition in which we have an excess of fibrous tissue. It may be simply an outgrowth of the ordinary fibrous tissue of the uterus; if not an outcropping, a deposit. It may be in the form of a nodule, or tumor, developed in any part of the uterus; or it may be effused just on the surface, below the peritoneal coat; or it may be interstitial, or intramural, that is, imbedded in the uterine walls; or it may be submucous or intrauterine, when in the cavity of the womb.

An excess of fibrous tissue elements in the blood, and local irritation are the causes.

Symptoms.—Very frequently neither important nor well marked, as there is neither cachexia nor pain, in front or back, or shooting through. When of sufficient size, it encroaches on the pelvic viscera, and can be detected over abdomen, or per vaginam, or rectum, or by sound. Even if small, it is likely to give rise to frequent hemorrhages, difficulty in passing urine, or in retaining it; obstruction of the bowels, or constipation, hemorrhoids. If it is interuterine, the hemorrhage is likely to be severe, and to be accompanied with bearing-down pains. The sharp lancinating pain of cancer is entirely absent, but there is, nevertheless, a sort of dull, aching, or throbbing pain, with a sense of weight and bearing down, corresponding to the size of the deposit, or growth. Enlargement and tenderness of breasts, and they often exude serum from the nipple. If unable to detect, evacuate bowels thoroughly with oil, and make a careful abdominal manipulation and vaginal examination.

Adventitious fibrous tissue on and in any part of the body is indicative of degenerative changes on or in the uterus; there is

no affection so varied in its manifestatoins as fibroma of the uterus, whch is most common between thirty and forty years of life. This is regarded as the typical age, single or married. Sterile if married has not had children for some years.

In some cases the infiltration is so small that it gives rise to no appreciable symptoms; whereas in other cases it totally incapacitates the individual for work.

When it is any appreciable size it gives rise to pain and hemorrhage. The latter most common, a slight metrorrhagia, which, together with its presence, gives rise to exhaustion and discomfort. The size and position of the tumor give rise to hemorrhage and pain, besides, if of any size, produces pressure on important viscera; irritable bladder; retention of urine; difficulty of defection from pressure on the rectum; edema of the lower extremities from pressure on the iliac vein; loss of power in the lower extremities from pressure upon the sacral plexus; sub-acute pelvic peritonitis not rare; uterus always enlarged, often an enormous size; glandular endometritis always present, give rise to various irregularities in shape.

Of all the various drugs used in treatment none are so valuable locally as washing out both rectum and vagina with a warm boroglycerid solution and subsequently inserting a boroglycerid pastil and ichthyol suppository, using one of each morning, noon and night. They have a definite action in every case. Whilst using these the bowels must be kept regular. The use of ozonized clay, every other day, over the pubes, for a period of time to cause a mere blush, affords a slow, but decisive, permanent result in aiding the absorption of the tumor.

Of all the various drugs prescribed internally ergot and matricaria lead; nux vomica and quinine alternated with wine of aletris farinosa follow next in efficacy.

Protonuclein and thyroid extract must never be omitted. A three months' course of these remedies, properly administered, invariably shows distinct diminution in size and hardness, often a complete eradication of the growth, and lastly, but not least, the cacodylate of sodium, with which most marvelous results are often effected.

Quite a large number of practitioners think well of hydrastis canadensis, but as an all-round remedy in fibroma its action is decidedly inferior to the remedies enumerated.

The oil of thuja is often a most available remedy, both internally and locally, good for hemorrhage; unsurpassed for

the removal of any polypoid excrescence—it invariably gives permanent results, without risk and mutilation of the sexual organs.

Two of the above remedies should be given the same week: one before, and other two hours after eating. To hasten the process of absorption, pastils and suppositories of iodide of potassa should be used every night. All remedies but clay to be discontinued during menstruation. Hemorrhage and other symptoms to be treated on general principles.

POLYPUS OF UTERUS.—A pear-shaped excrescence attached and growing from the mucous membrane of the uterus. It may be in the cavity, on the neck, os, or in the vagina, or other part, by a pedicle, or root, or stem.

There are three varieties: (1) Gelatinous, or mucous. (2) Fibroid, pale white, covered with mucous membrane. (3) Fibroid, fleshy, or placental. The predisposing cause is tuberculæ; the exciting cause, irritations, as abortions, masturbations.

Symptoms.—Either profuse menstruation, or irregular attacks of uterine hemorrhage, or a dribbling all the time, or even excessive flooding; leukorrhea very profuse. If polypus is large, there may be irritation of the bladder and rectum by pressure. The same condition is likely to give rise to bearing-down or expulsive pains, coming on by spells, or worse after exercise. The continual loss of blood is a heavy drain, and gives rise to debility, loss of flesh in proportion to the amount of loss. The polypus can easily be detected in the uterus by the sound, or, if on neck, os, or vagina, by finger and speculum.

Treatment.—If the polypus is in vagina, or on the neck, or os, any of the following methods of treatment can be resorted to: It can be *excised,* and bleeding arrested with a sponge, proper size, saturated with perchloride of iron; it can be *ligated* and allowed to slough off; *torsion* can be used, that is, it can be turned a little every day, thus impeding its circulation, strangulating it, and allowing it to slough off; or the chain of the ecraseur can be applied round it, and crushed; or, if it can be brought into a speculum handy, the ozonized chloride of chromium can be applied, and cause its instant death without a particle of pain. Now all these methods of procedure can be dispensed with, and the polypus caused to die and exfoliate simply by placing patient upon the internal and local administration of the oil of thuja. It must be given in sensible doses, from ten to thirty drops thrice daily, and it can be inserted

in the vagina either in the form of a suppository or tampon.

CYSTS OF UTERUS.—Cysts, or closed sacs, resembling hydatid cysts, are often developed in the substance of the uterus or beneath internal mucous lining, or under external serous covering. Sometimes one part of the uterine walls is invaded with cysts, or small bladders, while another part is infiltrated with fibrous tissue, or the ordinary fibroid tumor. These cysts give rise to trouble and inconvenience when they attain any size, such as leukorrhea and hemorrhage. If within reach, they may be punctured. They, like the others, are unaccompanied with pain; not infrequent give rise to uneasiness. The best treatment is a general alterative and tonic course, with a prolonged course of cacodylate of sodium.

In order to avoid those three common forms of uterine disease, there should be a rigid avoidance of irritation of the uterus, either by tight lacing, wearing sponges or pessaries, masturbation, abortions, irritating caustics of doctors, especially nitrate of silver; even certain occupations, as the sewing machine, should be guarded against, or other forms that aid in the production of congestion.

WARTS on the mucous membrane of the vagina are commonly met with among women of easy virtue, or among those the possessors of unfaithful husbands. These give rise to a dense microbic leukorrhea discharge, which is exceedingly infectious. It must never be blended with a neurosis of the sexual plexus, but rather of a specific micro-organism.

These cases are cured by boroglycerid, injection oil of thuj either in suppository or on a tampon, and oil of thuja internally.

In the female, aside from warts, there is often met with vascular tumors at or near the orifice of the urethra.

These excrescences vary in size from a pea to a walnut. Usually they are highly sensitive, exquisitely painful, giving rise to most excruciating pain and irritability in making water, which continues for some time. They also give rise to irritable bladder, pain in back, and considerable constitutional disturbance. The only treatment is either excision, or ligation, or destruction with caustics, as chromic acid, supersulphate of zinc, salicylate. If preferred they yield slowly, but never return, by applying oil of thuja locally and internally, with the addition of the cacodylate of sodium.

Keep urine alkaline during the process of healing, and inculcate a general tonic and alterative course of remedies.

UROTROPIN.—This chemical compound is formed by the action of formalin on ammonia, and is a urinary disinfectant and germicide—a drug of marvelous power, a specific for all urinary infections, rapidly causes all bacilli to disappear from the urine after its use.

When prescribed in ten-grain doses, thrice daily, it promptly annihilates all disease germs in the urine, checks all decomposition, prevents the evolution of the micrococcus ureæ, so common in either urinary retention, or cystitis.

Physicians who are curing enlarged prostate by cocain, saw palmetto and boroglycerid suppositories, would do well to try urotropin as a distinct antiseptic to the contents of the bladder.

It is a most efficient diuretic, urinary antiseptic, uric acid solvent, and remedy for calculous disease. Rapidly renders alkaline and putrid urine containing mucus, pus, uric acid, and amorphous urates normal in appearance and reaction. It sterilizes the urine, increases its quantity, and dissolves calculi and deposits. Very valuable in all suppurative diseases of the genitourinary tract, pyelitis, cystitis with ammoniacal decomposition of the urine, phosphaturia, also in gouty and rheumatic affections where active elimination of uric acid and the urates is required.

The introduction of this remedy marks a new era in the successful treatment of all diseases of the genitourinary tract, especially when disease germs or their toxins are present, either in the kidneys and bladder—completely wipes them out, and at the same time exercises a healing and soothing action upon the inflamed mucosa of the entire passage. It operates also well in cancer of both bladder and kidneys. Its great therapeutic value is a perfect solvent to uric acid in the urine, whether in the form of sand, brick dust, gravel, stone, or calculi.

UVULA.—A fleshy appendix or prolongation, which hangs from the middle or free edge of the velum palati; of a conical shape, of a greater or less size in individuals. Its use, evidently so designed to regulate the swallowing of food and liquids; covered with mucous membrane; all diseases of mouth and throat are liable to be effected; subjected often to paralysis in diphtheria.

Diseases of the uvula have not received attention commensurate with their importance.

Inflammation simply causes relaxation, whereas repeated at-

tacks gives rise to infiltration, thickening and elongation, its specific gravity being increased it falls upon the root of the tongue, even extends to the opening of the trachea, giving rise to constant irritable cough, which is often mistaken for bronchitis or tuberculosis.

The old treatment was the use of astringent washes, gargling or painting, such remedies as either a solution of sulphocarbolate of aluminum, zinc, or infusion of golden seal, or appropriate inhalations of the same remedies. These failing, simply cutting it off.

It is indispensable to get rid of it to wipe out irritation, especially if the microbes of syphilis, tuberculosis, cancer be in the blood.

Painting or brushing over the elongated formalin causes it to shrink, to diminish not only in weight, but in length. This the present century practice and is decidedly good, instantaneous, getting rid of the constant irritating cough, a source of annoyance, even danger; besides this new treatment completely annihilates the microbes of syphilis, tubercle, cancer, when lodged in the uvula.

VACCINIA.—A disease peculiar to the cow; arising spontaneously under certain insanitary conditions, being transmitted to man by inoculation, either through ignorance or superstition. An idea has permeated some minds that if the serum of the cowpox vesicle were injected into the true skin of a human being a microcosm of Deity, it would prevent him from taking variola—an imaginary prevention, that is, they suppose that this cowpox microbe uses up, when it enters the blood, all the elements in the body upon which the genuine microbe of smallpox subsists, thus either sterilizing the individual or rendering him *immune,* both to the entrance and growth of that germ in the blood.

This idea, in recent years, has been found to be erroneous, as it has been demonstrated that it has no protective power whatever, neither in preventing nor even modifying the disease, the whole affair being simply ignorance and superstition operating upon minds destitute of cineritious matter.

Physicians of culture, men of advanced ideas, look upon vaccination (bovine) as being most productive of degenerative changes, and favoring the evolution of the cancer neoplasm in the human body. There is no doubt that the introduction of animal matter, either into the true skin, a secreting membrane,

or into the cellular tissue, is attended with degenerative changes in vital organs; it makes no difference whether it be the cells of cowpox or the serum of a glandered horse, or a vicious goat, or stubborn ass, the result is the same, *degeneration.* Alkaloidal substances are the proper agents for subcutaneous administration.

VAGINISMUS is perhaps the most common of all forms of neuroses—a hyperesthetical condition of the nerves which supply the sphincter muscles of the vagina—giving rise to a spasmodic contraction of the muscles of both perineum and vagina. It is brought into action by a variety of causes—the predisposing being spinal neurasthenia, the exciting cause some irritation, small size of the vagina, ulcers, fissures, irritable hymen, organic uterine disease, cold, congestion often due to masturbation, sexual excesses, childbirth; every attempt at coition is attended with violent spasmodic pains. It is not at all uncommon to find numerous married ladies who never had been able to have connection with their husband owing to this difficulty. The hymen elastic and normal in appearance, but where any attempt is made to introduce the finger there arises the most intense excruciating pain, accompanied with spasmodic closure of the vaginal sphincter muscle. Cases have occurred in our own observation where an entrance has been effected, a violent spasm seizing the muscle, contracting upon the penis, causing fatal results.

The etiology of these cases lies in an exhausted condition of the lumbar portion of the spinal cord, which is speedily relieved by administering green root tincture of gelsemium combined with passiflora incarnata; locally insert per vaginam one boroglycerid suppository every three hours. The use of these afford instantaneous and permanent relief.

VALDIVINE.—A glucoside from pomegranate root bark, pumpkin seed, male fern, koussa, kamula, and other tenicides. *See directions.* This preparation is identical with the alkaloid pelletierin; put in extract of gentian and capsules, ready for administration.

Directions for Use.—The patient should take very little food for two days, and that should be of a fluid nature. On the evening of the second day he should take a purgative (castor oil is best) of sufficient strength to cause an evacuation of the bowels; in the morning, after the castor oil given the previous

evening has operated, and while fasting, the patient should take seven or eight capsules along with another dose of castor oil or other purgative, follow that with another eight capsules to another dose of castor oil. The worm generally comes away within two hours after the second dose of capsules.

VARICOCELE.—A weak, relaxed condition of the veins of the spermatic cord is extremely common.

It may be the result of inherent debility, aided by a hot, relaxing climate, but generally it is caused by masturbation and spermatorrhea—possibly in some few cases the effects of blows, falls, strains, bicycle and horseback riding.

Neglected or overlooked it may become quite large, and as it enlarges, it destroys the delicate glandular structure of the testes, and gives rise to complete impotency; reflexly its irritation gives rise to seminal losses, that cannot be relieved until the varicocele is cured.

The recognition of varicocele is easy: the history of the case—the left side; a swelling, dilating when he coughs, disappearing some or altogether when he lies down; reappearing when in the upright position; feeling like a bag of worms; atrophy of the testicle, and complete impotency; imperfect circulation and seminal disease with aching and peculiar itching on the skin of the scrotum are a few of the landmarks.

Its constant irritation, the dragging in the back, and general progressive debility, with complete loss of sexual power soon attract the attention of the sufferer.

The inability for coition is a physical disability, a loss of erectile power. The sympathetic soon becomes involved and a feeling of disgust toward his partner, and a lack of self-confidence soon takes place. In such cases there is a combined oozing of semen without the slightest erection. Impotence becomes so complete that even the closest contact with the opposite sex fails to revive the faintest scintillation of an erection. If by chance the slightest erection should occur, a premature discharge of thin, watery, infertile semen follows; besides, the ejaculatory ducts are relaxed, patulous, unable to hold the semen and it dribbles away, and the muscular fibres of the prostate are paralyzed and unable to promote the ejaculation of seminal fluid.

In the cure of varicocele, not a ray of hope is to be obtained from any surgical procedding which consists in the ligation of the veins of the cord, an operation not only dangerous but futile.

General tonics and alteratives are always of great service; the internal exhibition of matricaria is attended with the best results, while, locally, bathing with ozonized witch-hazel and wearing a suspensory do some good in the way of amelioration or palliation of the urgent symptoms.

Cases have occurred to me in which the thyroid extract administered internally and the use of thyroid cream locally have effected relief and cure. The success resulting from this remedy has been immense. Cases pronounced incurable have been obliterated, and the spermatorrhea and impotency completely cured.

A very popular and most successful method is the periodate aurum varnish cure; it is thus prepared: Make a solution of gutta-percha in chloroform; add to every four ounces of this four drams of the periodate aurum. Mix thoroughly. Let the patient take a bath, and when well dried off let him apply to the hairy parts surrounding the varicocele a paste made of equal parts of the sulphuret of barium and starch. In a few minutes remove, and all the hair with it. This must be carefully wiped off and over the smooth surface this gold varnish painted on so as to obtain an impermeable coating. The repetition of this application has effected some most wonderful cures.

Inherent weakness of organization is the predisposing cause, whereas the exciting conditions are habitual constipation, sedentary habits, venereal excesses, masturbation, sexual perversion, spermatorrhea, congress with courtesans, bicycle exercise, etc.

Its recognition is easy, can readily be detected by feeling the cord or testes between the forefinger and thumb; if it is present a knotty feeling can be detected, feeling precisely like a bag of worms, which dilates when the patient coughs, diminishes or disappears when he lies down—spermatic cord is usually thickened, often considerable aching or dragging in the back.

When this devitalized state of the testicle or cord exists, it gives rise to either spermatorrhea or impotency, and when these exist form a barrier to a rapid cure.

If varicocele be neglected and not attended to early it has a most damaging effect upon the nerve centres, on the nervo-vital fluid from which the semen is evolved—even if the brain be vigorous, it will dwarf the spermatozoa, render them weak, watery, infertile.

The true principles of cure consists in resorting to every known means to strengthen the vital forces, improve the general health and vitalize the veins.

Bathing the genital organs morning and night with tepid water and witch-hazel soap is to be commended, the retraction of the prepuce, the removal of the smegma should be attended to, then well dried, and the ozonized extract of witch-hazel used with liberal hand over the affected part. This, during the day, should be followed by mechanical support, which is of infinite value—an elastic, compressible suspensory bandage, so as to keep all excess of blood from the parts, and thus, to a certain extent, prevent dilatation of the veins.

The internal remedies, from which good results are obtained, are comp. tincture matricaria, protonuclein, ambrosia orientalis, aletris wine, and keep the bowels in a soluble condition wih the kola-nut lozenge.

Usually the result of masturbation and sexual excesses, more recently a sequel of bicycle exercise; a loose, lax, dilated condition of the veins of the spermatic cord; a state existing in which the secreting faculty of the testes is impaired and partial or complete atrophy of those glands induced. The brain imperfectly nourished, the mental condition is peculiar; mind depressed, attention distracted. The constant weight in the scrotum, the perpetual aching pain up the cord, into the groin and down the thighs, keep his attention riveted on his ailment; his life is miserable. It seems to make little difference whether the mass of veins be large or small. Tincture ambrosia orientalis, thrice daily in thirty- and sixty-drop doses; bougie and suppository of ambrosia on retiring are the best of all medicaments for varicocele.

It is well to aid their action with every known palliative measure of any value, especially such as bathing the parts well, then applying ozonized extract of witch-hazel morning and night; a faithful, persevering trial and wearing a well-fitting suspensory bandage.

Ambrosia orientalis, pill, tablet or tincture, is an excellent sexual tonic and invigorator, and its use as a restorative in varicocele will be watched with much interest.

Some cases admit of a cure, before complete wasting and organic change has taken place. A cure can only be effected by strict observance of every possible means of improving the general health and strengthening the veins of the cord. As a special remedy to vitalize the spermatic cord, its veins, the testes, general sexual invigorator, ambrosia orientalis leads; it stands alone above all others. Its action is still greater by adding c. p. solution of spermin and thyroid extract. Am-

brosia in the form of tincture, pill, tablet, suppository, bougie, and ointment for inunction. Bathing scrotum, groin with ozonized distillation of witch-hazel, and during the day wearing a silk suspensory, bandages, are excellent.

Unprincipled parties, either through ignorance or avarice, are endeavoring to foist upon the profession a rubber or vulcanized rubber suspensory, which if ever used will produce grave pathological results, namely, absorption, complete disappearance of the testes, make the wearer in six months a eunuch, and in twelve months more a maniac.

There is something in rubber, when applied to the nude skin, antagonistic to life, to vitality, for all underneath it withers and dies.

Too true, it reduces by compression, absorption and by inducing degenerative changes. A rubber bandage applied to any part of the body induces atrophy of all the various tissues underneath it. Fatty degeneration takes place. Things are still worse if it is a vulcanized rubber suspensory, for, in addition to the blighting action of rubber, we have absorption of the poisons of lead and mercury to contend with.

Therefore discard all rubber goods, as highly prejudicial.

VARICOSE VEINS.—Incidental to the great increase of neurasthenia, varicose veins are an essential element of debility or weakness, become more and more prevalent. A tortuosity, engorgement, or enlargement of the veins, is attributed to an inherent weakness, from organic changes in their walls, or to the relaxing effects of a hot climate.

The veins most usually affected are those of the leg, the long saphenous vein, which runs down the inner aspect of the side of the leg to the ankle; the veins of the spermatic cord, testes, scrotum, rectum, eye.

The exciting causes are any obstruction to the return of the venous blood, such as pressure in pregnancy; the effect of gravity, such as standing all day; congestion of the liver gives rise to varicosity of the veins of the rectum, piles; scrotum and spermatic cord, varicocele, masturbation, sexual excesses; the eye, cold.

In the treatment of varicose veins, rest, elevation, pressure over the part, by means of bandages, or elastic stockings. Operations are either dangerous or inefficient. The only true method of cure is to impart increased vitality to the whole body, but especially to the veins. For this purpose the internal

administration of ambrosia orientalis, comp. tincture matricaria, protonuclein, thyroid extract, and locally in all cases ozonized witch-hazel extract.

In varicocele, the same remedies, wearing a suspensory, and inserting either an ambrosia orientalis or salix nigra suppository three times daily; excellent results are to be obtained with a free use of witch-hazel as a wash. Bowels must be kept in a soluble condition by kola-nut pill. Rubber bandages cause atrophy, and should never be used as a support to varicose veins.

If a varicose vein bursts, there is usually profuse hemorrhage, often dangerous. which is to be promptly arrested by recumbent posture, compression with a pad over the bleeding orifice, and subsequently by the hypodermic injection of a solution of tannic acid and iodine all around the bleeding aperture to close it by plastic lymph.

Hemorrhoids, piles, varicose veins of the rectum must be cured by rousing up the liver with either periodate aurum, or nux vomica and belladonna, and by inserting at stated intervals suppositories of either horse-chestnut or krameria.

The coagulation of the contents of the varicose vein (pile) by injecting it with carbolic acid and glycerin may in some cases be commendable. (See large Encyclopedia of Practical Medicine, based on bacteriology.)

Varicose ulcers are chiefly met with on the leg. The skin over some angle in which the blood clots becomes imperfectly nourished, much irritation follows, pain, heat, burning redness and latterly ulcer forms.

All operations, all procedures having in view the obliteration of the vein, are futile. Apparent success may be realized, but the deeper-seated veins take on the same pathological condition, and are even worse to manage than the superficial. So a highly constructive treatment, rest, massage of the limb to the body, elevation, mechanical support, bandages steeped in solution of oak-bark or witch-hazel, sprinkling over the ulcer formal-gelatin, then boracic acid pulv., are all of some efficacy.

VARIX.—Varicose veins. Debility is the predisposing cause; sedentary habits, pregnancy, certain occupations are exciting causes.

They are relaxed, dilatable, purple; knotty and become filled up with blood, which often coagulates.

VARIOLA.—(*Micrococcus*).—Smallpox is the best defined of all fevers due to the presence of a microbe in the blood. Once the germ enters the body either by the mouth, bronchial mucous membrane, or skin, it takes precisely twelve days to sprout, during which time the patient suffers from languor, lassitude, debility, nausea and vomiting, pain in the loins, and a gritty feeling in the skin. At the end of this stage of development, rigors and a fever, active germ proliferation and ptomain excretion commence, which last three days, then a papular rash makes its appearance over the chest, abdomen, face, limbs, and sometimes on the mucous membrane of the eyes, nose, mouth; papulæ fill or mature in eight days, cicatrization taking place in from seventeen to twenty-four days. The state of vital force, the amount of germs present in the blood, will give the type of fever, whether the papulæ be few and small, constituting chicken-pox, or papulæ large, numerous, constituting what is known as varioloid; or larger still, even more numerous, smallpox (discrete); or still more numerous, running into each other (confluent).

In any of its stages, its diagnosis is easy. The nausea, vomiting, pain in the loins, with gritty feeling of the skin, during the twelve days when germ is sprouting; the rigors, fever, subsidence of the vomiting and loin pain, lasting three days, and the papular eruption appearing, first as papules, then as pustules, regular pocks, peculiar odor.

By the microscope, in the early stage, the micrococcus can be detected in the breath and urine, later on in the pustules, micrococci, either isolated or united, same microbe in the mucous membrane of the mouth and larynx.

The micrococcus found in the pustules is chemically, morphologically, and microscopically identical with the cowpox.

The micrococci are pathogenic of the disease, bear cultivation well in any warm, nutrient broth; cultures, either injected or fed to animals or man, give rise to the disease.

The microbe in the blood appears as cocci, singly, in pairs, and in long or short chains or colonies. They are found in the fresh lymph of human and cowpox and in the pustules of true smallpox. They are found most numerous in and around the pustules. Successful vaccinations result from artificial cellulations. The micrococci of varicella, variola and confluent smallpox are identical, thus establishing most conclusively that these are but one morbid state, that the microbe is pathogenic of the disease.

Living as we do among distinct races of men, in which every microbial disease is intensified, variola is the great pathogenic and therapeutic question of the day.

The microbe variola can be detected in the atmosphere for fifty feet around an infected person; all within that radius are exposed to it and it enters their bodies, but, in order to take hold and multiply, there must be particular conditions of temperature and chemical media constituting what is termed receptivity. Just as some seeds will germinate only in presence of certain meteorological conditions and in certain soils, so organic receptivity is requisite, that disease germs be followed by their effects. Once the microbe of variola enters our bodies and produces smallpox, the solids and fluids of our bodies are so altered or modified, that all the essential elements for their further nutrition are used up and never appear again.

If the germ of variola enters the human body and finds a medium suitable for its existence, it quickly multiplies, with the celerity peculiar to minute bodies, their marvelous facility of reproduction compensating for their microscopic size. During the twelve days of incubation millions of ova or spores are evolved, so that when the rigors come with the three days of fever, the microphytes having used up all the oxygenizable material in the body, eager, greedy for more, with air and light, accumulate near the surface; scattered in groups, in the skin and mucous membrane the microbe excites suppurative inflammation, which constitutes "pustulation." The microbe variola is sterilized and utterly annihilated in the presence of the ozonized glycerite of sulphur, oil of thuja occ., sulphide of lime, bichloride of mercury; and these agents freely elaborated in the blood render the soil unfit for their growth.

The glycerite of sulphur with the hydrogen peroxide has excellent germicidal properties, diffuses itself well through the blood, sterilizes that fluid, combats the invasion of the bacterium of variola. It is the dominant germicide in diphtheria, aphthous stomatitis, also in variola. Lowers heat, pulse, respirations.

Sulphide of lime can be used instead, as it also destroys the germ and renders the blood (soil) unfit for their growth; so with thuja, etc.

Are these remedies efficacious? Do they sterilize the blood, render it unfit for microscopic life; do they kill the germ?

In its etiology, in some cases, it would appear to originate in all insanitary conditions, and even to be an evolution of filth,

and human degradation, essentially infectious and contagious, and, when transmitted from one race to another, most malignant—black smallpox, skin and mucous membrane both involved.

From the moment of inception, that is, from the entrance of the microbe into the salivary glands of the mouth, until the rigor and fever appear is twelve days—that is, the germ in the blood-stream takes twelve days to mature, during which time the germ-saturated subject suffers from headache, pain in the small of the back, calves of the legs; languor; lassitude; debility; nausea, often retching and vomiting; constipation. Usually about the ninth day a gritty feel can be detected in the skin or subcutaneous tissue, like rice, or shot, or barley-grains. At the termination of the twelve days of incubation rigors and a continued type of fever set in, which last three days, and are followed by a papular rash, which is either scattering or joined together—discrete or confluent. Simultaneously the same eruption may appear on the mucous membrane of the mouth and fauces.

At the termination of the third day of fever there is a general lowering of temperature, a slowing of pulse, a keenness of appetite sets in, and the papular rash rapidly fills up into vesicles, which mature about the eighth day, ultimately drying up into scabs, which exfoliate or drop off from the seventeenth to the twenty-fifth day.

Dangers.—The greatest danger arises from the secondary fever about the ninth or twelfth day, when the pustules are ripening, and vital strength has already been much exhausted. In a confluent case, fatal chest symptoms or laryngitis, may arise; or the pocks may be followed by abscesses in various parts of the body; or there may be ulceration and opacity of the cornea and loss of sight.

The recognition of variola is easy: history of the case, severe pain in the loins, gritty feel in the subcutaneous tissue about the ninth day; the odor most significant; the definite duration of fever.

Prophylaxis, a tight-shut mouth, either the vapor of chlorine or formalin at all times in the room and throughout the dwelling; take some antiseptic at stated intervals.

In the treatment select two good germicides, and administer them alternately one every two hours. Chlorine and bichloride of mercury have stood the test for 100 years. If not satisfied with these, try lime-water and tincture of iodine in

milk; alternate with sulphocarbolate of sodium. If these are not approved try ozonized oil of thuja, alternated with a decoction of sarracentia purpurea, with a few grains of chlorate of carbon, so that the total amount in twenty-four hours does not exceed fifteen to twenty grains. If no other remedies are at hand, give brewers' yeast; otherwise general principles of treatment of fevers, even to bathing, which can be carried out till the eruption appears.

If the above remedies are given properly, there will be no cicatrization or pitting of exposed parts. You may lack confidence in the action of drugs; if so keep the apartment either dark or a yellow light. If you lack faith in that completely cover the eruption with a piece of fine linen on which storax ointment is thickly spread. This never fails. Enjoin perfect isolation. Give a most generous diet, as the disease is an exhausting one, but it must be given in such a form as to be readily digested and absorbed. Liberal allowance of milk, diluted with about one-third soda-water, raw eggs beaten up with milk (cold), beef-tea, arrowroot, sago, etc. Tea or coffee is often grateful and useful; but to quench thirst nothing is more pleasant than cold water. Lemonade, soda-water, and other effervescing drinks may also be allowed.

VENEREAL DISEASE.—In order thoroughly to understand the venereal disease, it will be necessary very briefly to make a few remarks.

Under this pathological state, we find two distinct disease germs, one of them of very low power, capable of either producing inflammation of the mucous membrane of the urethra or other mucous membranes; or, if applied to an abraded, cracked or fissured surface, a specific, soft, non-infecting sore, but incapable of entering or damaging the blood.

This microbe has been named the gonococcus.

The other germ is the true *venereal bacillus,* which, if it by any means can enter the urethra, forms a nest and gives rise to a chancroid in which it breeds by sporulation; or if it reaches some weakened point on the glans or prepuce, inoculates it and gives rise to a hard, infecting, Hunterian chancre or sore from which the microbe emigrates to the lymphatics of the groin, and from thence to the blood and weakened parts of the body, where it has prodigious growth.

GONORRHEA.—In order to wipe out various absurdities which have crept into the medical literature of the subject, it

will be necessary to consider each disease germ seperately, and in so dong we will briefly mention the leading features of each.

The *gonococcus,* which gives rise to a gonorrhea, and a soft, non-infecting chancre, is supposed to be the evolution of promiscuous sexual intercourse, and when once originated, propagated by contagion and infection. There seems to be some truth in this, for after the degrading practice of self-abuse is committed by either sex the gonococcus is found in either the urethra or vagina.

The gonorrhea (the gonococcus) is a term applied to a specific inflammation of the urethra of the male or vagina of the female, usually the result of impure sexual congress, and accompanied with a profuse mucopurulent discharge.

After an exposure to the "germ," an uncertain period of time elapses, depending upon the vital stamina of the individual, before the symptoms make their appearance, generally from twenty-four to seventy-two hours.

The Symptoms in the Male.—It usually begins with a slight redness, itching and irritation of the orifice of the urethra. The glans becomes congested, of a bright-red color; the lining membrane of the urethra becomes swollen, and painful; a thin, white, watery discharge appears; urine is passed with difficulty, stream is diminished in calibre, often twisted, forked, with a dull aching pain in the back, loins and testicles.

As the gonococcus grows, becomes mature, sporulation begins, symptoms become aggravated, and in addition to the gonorrhea germ there is the pyogenes aureus in the canal, with lymph in the discharge, which becomes thick and puriform, with a greenish or reddish tinge. There are in a large percentage of cases prolonged and painful erections at night, during which some of the erectile fibres give way, and the penis becomes bent or curved (chordee), a state which is extremely painful. In some cases the glans becomes excoriated, smooth and glassy (balanitis). In other cases the prepuce or foreskin becomes elongated, edematous, contracted over the glans—cannot be pushed back (phimosis); or retracted and contracted behind the glans (paraphimosis). The lymphatics in the groin always sympathize, become less or more irritated, inflamed, often suppurate (buboe). Either testicle may become acutely inflamed, giving rise to orchitis.

If the micrococcus is not killed in the urethra it will gradually die out and degenerate into a gleet, which is often intractable, or it may terminate in a stricture.

The evolution of the gonococcus in the urethra of a man who commits self-abuse, or has suffered external violence, or from the use of instruments or in having connection with women who have leukorrhea, or who are loose and flabby, should on moral grounds be made a distinction, but there is no wiping out the fact that if the germ is there, contagion and infection exist.

Treatment.—In all stages of the life of the gonococcus, the bowels should be kept open daily by some mild saline purge, as cream of tartar lemonade, or sulphate magnesia; diet, plain, unstimulating diet; as much rest as possible; the penis should be bathed frequently with Castile soap and water as hot as can be borne. The greatest cleanliness observed.

The remedies used must be both local and internal, and to be of utility must be bactericides of some power.

There is quite a diversity of opinion as to the mode of procedure, and even in the antimicrobe used.

Some are partial to copious injections after urinating of distillation of eucalyptus; others to the insertion of soluble gelatinized bougies of either thallin or iodol; some use both.

The internal remedy must be one incapable of digestion—one which will pass in the form of fine molecules in the urine, and coming in contact with the germ in the urethra kill it. Such remedies as the balsam of llaretta, oil of sandal-wood, kava-kava.

GLEET, a thin, glairing discharge from the urethra is either due to weakness or relaxation of the lining membrane of the urethra, or to stricture, or to papillary hypertrophy of the canal.

In such cases, a general course of tonics, sea bathing and other means to improve the general health. Injections of sulphate of quinine in port wine; bougies of aristol or iodole are very efficacious. The soluble gelatinized bougies are the best for the treatment of gleet.

ORIGIN OF THE VENEREAL GERMS.—As to the origin of the genuine syphilitic germ we know nothing; it is very different, however, with the gonococcus which gives rise to the soft chancre and a gonorrhea. Here we can clearly demonstrate that this micrococcus is simply an evolution from the elementary molecules of nutrition, which has been changed, altered, degraded into other living matter under the lowering effects of promiscuous sexual intercourse, where that act has been loose, or varied, few women among many men. We find this same

evolution in the urethra of masturbators for at least twelve hours after the act, and also in the vulva of females who are addicted to the same pernicious practice. This evolution becomes a pathogenic microbe, the *gonococcus,* bears culture in almost any albuminoid fluid, and when it comes in contact with weakened tissues excites violent inflammation and destruction of tissue; but although this germ can do much local damage, it is incapable of ever entering the blood. How very different in all morphological characteristics from the venereal bacillus! It may either be localized in the urethra in the form of a chancroid or on some other parts as an indurated sore; or simply contact with the fresh secretions, or by kissing or nursing—that point it finds a habitat and enters the blood, in which it finds a true pasture field.

Soft Non-infecting Chancres.—A soft chancre is simply a contagious ulcer produced by the micro-organism, the gonococcus, during actual contact with an unclean or impure vagina or otherwise; the germ lodges in a follicle and gives rise to a small irritable pimple, which gradually enlarges as the microbe grows. The power of growth is great, and begins the moment it reaches the true skin. The period of growth and maturation depends a great deal upon the vital integrity of the individual inoculated. Very generally the pimple shows itself within forty-eight hours after contact. It runs along rapidly to suppuration, forming a pustule. The top of this is either rubbed off by the clothes or else it bursts and gives rise to superficial ulceration. The sore is generally seated in the sulcus between the prepuce and the glans, sometimes on the foreskin, more rarely at the bridle. The base of the ulcer is always soft (unless it has been cauterized by the nitrate of silver), it can be easily compressed between the index finger and thumb, and the discharge from the ulcer contains an abundance of the specific germ with the pus microbe, with the *debris* of the tissue broke down in the process of ulceration. In the soft chancres, there is usually quite a good deal of suppuration and there are frequently more sores than one present. The lymphatic glands in the groin usually sympathize, become swollen, inflamed and often suppurate.

Although the gonococcus is so feeble that it cannot enter the blood, still its local ravages are often quite great. For example, if the health of the affected individual be poor, or if he happens to reside under insanitary influences, the micrococcus will become very active, eat deeply, which causes the sore to spread

widely, and it assumes a phagedenic form or type. Again, if the individual happens to have the tubercular bacilli in his blood, the ulceration may creep over the head of the penis like a horseshoe (serpiginous). Above all kinds of ulcers, if they are neglected or ill-treated, they are the most liable to slough and even destroy the organ.

Although this germ never enters the blood it often, when treated by empirics or charlatans, creates dreadful ravages.

The microbe through all its vicissitudes is found in the secretions of the ulcer, which can be inoculated into any part of the patient's body, and the identical sore will be reproduced, similar in all respects to the original. True, the action of the germ is local, but extremely contagious.

In the treatment of a non-infecting chancre, the greatest care and nicest discrimination exercised. If a case presents itself with a suspicious-looking pimple, which has appeared within a day or two after an impure connection, it should at once be dressed with some bactericide lotion, which should be changed every few hours, never permitting it to become dry—an antimicrobe lotion is the best application because it penetrates deep and kills the germs which have probably buried themselves into deep parts. When the epidermis exfoliates we probably have seen the last of the germ; but better to keep this dressing on for ten or twelve days.

If the sore or pock is more advanced, or if it is irritated or inflamed, the same plan of treatment is applicable. A good rule of practice is, that all irritation must be allayed, and no irritation of any kind produced.

If ulceration spreads rapidly and deeply, if it becomes phagedenic its surface might be brushed over with a solution of the chloride of gold, followed by sprays of the peroxide of hydrogen, then poultices of yeast and charcoal kept constantly applied till a healthy surface is established, and then dressed with boroglycerid ointment.

Sloughing phagedena is managed pretty much the same way. Powdered aristol sprinkled on the eating surface is most effectual in arresting microbe evolution.

Aristol is also a good remedy when lotions cannot be applied.

If the inguinal glands become inflamed, they should be treated by rest and hot fomentations; if suppuration is inevitable, they should be injected with peroxide of hydrogen, which promptly and at once changes the contents of the lymph-sac to innocuous matter.

THE HARD CHANCRE OR INFECTING ULCER.—The true Hunterian chancre, the sore in which the pathogenic microbe, the venereal bacillus, creates and takes up his abode differs in every respect from a soft chancre—an essentially different microbe which gives rise to it. This may begin as a pimple on some crack or fissure, in and around this the bacillus forms a nest, breeds by spores, during which induration takes place; the pimple may burst, may be rubbed off, and an open sore with a hardened base may be the result. But ulceration, suppuration are not essentials of this microbe, and the abraded surface may be skinned over, and nothing but the induration felt.

When the venereal bacillus, in any way, either from an impure connection or otherwise, reaches a crack, fissure or some weak part of the skin, through which it may find ingress, it lodges there and grows; if the vital forces of the individual are strong, it may remain latent for many years, or if the vital forces be simply average it may incubate in from ten to thirty days, before even a sore or hardness is developed, and even longer before induration be complete. The hard-chancre sore is generally single, but a woman might give a man both varieties, a hard and soft, or the man might have congress with different women with all varieties of ulcers, and both varieties be the result of the indiscretion.

As a rule, it is rare for infecting sores to make their appearance earlier than ten days after exposure to contagion, and in rare cases several weeks may elapse. Or it may assume or present itself in one of the following forms, the difference being due to some accidental condition: as irritation, friction, inflammatory changes in the tissues affected by the bacillus.

The epidermis may appear abraded, or excoriated and peel off in flakes, exposes a circumscribed circular patch of a livid hue or purple color, with very little ulceration or induration; or

An indurated tubercle may form beneath the epidermis, the latter remaining intact, the surface of the sore not excoriated, no moisture or discharge; or

A coin-shaped nodule may develop in the substance of the skin, flattened on the surface, with circular margins and a definite shape, elevated edges; it is very hard, feeling as if cartilage were set in the skin, the surface raw, red, excoriated, which discharges a thin, watery fluid, which contains much epithelial scales.

Inoculation may take place in any part of the body, as on

the lips in kissing; from pipe of a smoker; contact by sleeping, drinking vessels, towels, sitting on seats, and handling articles used by the infected, without a sore, induration, or any mark by which the microbe could be detected.

If there be a sore, or an induration, or crack by which this microbe does enter the blood, the lymphatics in close proximity, the veins leading from the point of ingress are usually congested.

True, the microbe may enter the blood through every crack or fissure in the body, if applied there, without a sore or induration, although the genital organs are decidedly the most common seat of inoculation. Once the venereal bacillus enters the blood, it may remain latent there if vital force be high, as vital blood-plasma prevents all microbial evolution.

Vital force somewhat depressed, admits of germ growth and certain constitutional symptoms invariably come to the surface, and the intensity, violence and destructive action of the germ depends altogether upon the degree of vital force present.

It should be clearly understood, then, that with low vital force, symptoms of a destructive microbe in the blood will be prominent at once, or nearly so after the inoculation; if they are very vigorous they may never appear, but pass to the wife of his bosom and the innocent child of his love.

All the old discoveries in syphilis are wiped out by the discovery of it being a microbe, *no* sore, *no* induration is necessary, as it can enter the blood without.

Whenever microbial evolution begins in the blood, there are symptoms of languor, lassitude, debility, rigors, febrile attacks, pain in the sternum, enlargement of the post cervical glands of the neck, nocturnal pains in the bones; eruption of some kind on the body, which is copper-colored and insensible. Here the microbe rests; growth and sporulation; no secondary or tertiary states—the microbe's presence is destructive to the blood and tissues. It has been a grave medical error to endeavor to divide it into stages. The very real bacillus, like all other disease germs when in the blood, migrates to the weakest part, and there give rise to most active sporulation and destructive metamorphosis in the form of plastic inflammation and ulceration of tissue—an exudation of inflammatory products, a tendency to the formation of young fibrous tissue.

PROPHYLAXIS OF SYPHILIS.—Annually there seems to be an increase, a wider distribution of this germ, which is apparently due to (1) an increase of the social evil, (2) to the degraded

character of emigrants who are permitted to land, and (3) to its very infectious and contagious nature. So extremely bad is this becoming that Congress will be compelled to pass, at an early date, a contagious disease act, before the entire country is riddled or eaten up with the germ.

Licensed prostitution, weekly inspection by irreproachable physicians would do much to stunt its growth. There is no reason why our entire country should become contaminated by the foulest of all microbic diseases, which is now undermining the life and health of our nation.

There should be no mawkish sentimentality about protecting the dignity and modesty of fallen women. There is no reason why every town in the United States should become converted into a pest-house. Keener minds are needed in our profession to grapple with this subject.

We hear much of our water supply being poor, our drainage imperfect, food adulterated, overcrowding and malaria, accounting for the indescribable languor of our people, as the cause of nocturnal headaches and septic sore throats, when such symptoms exhibit the activity of the germ in the weakened tissue. Fifty millions of our people should be placed upon comp. saxifraga, which has a specific tendency to kill it, and exerts such a powerful influence upon the lymphatic system, improving nutrition and building up deteriorated blood, wiping the bacillus out.

It is the duty of the state not only to limit prostitution, but to exercise a constant supervision over it.

When the venereal disease is of such a nature as to justify the fear that it is prejudicial to public health, being both contagious and infectious, essentially destructive to human life, moralizing is of no service in inducing women to leave the ranks of prostitution. As a contagious and infectious disease, syphilis, having the same etiology as smallpox and the plague, needs the same medicament and prophylaxis; the infected must be isolated and treated.

Open wide prostitution, licensed under state inspection of its inmates twice weekly, is preferable to hidden dens or brothels.

Secret, unwatched prostitution is far more active in the propagation of the syphilitic bacillus than prostitution which is under control or license.

A woman who spreads the venereal disease as her daily avocation should not be allowed to go free, while a butcher who

sells diseased meat is prosecuted. The woman and the meat are both offered to the public for sale; both should be inspected. Health officers, sanitary police condemn bad meat, carefully guard the people from variola, plague and kindred living contagions; but the venereal disease is at the door of every household, nothing being done to prevent its dissemination.

It can be prevented; its cause, its etiological factor, unrestricted, promiscuous sexual intercourse, by which it properly originates, and spreads or transfers itself from one individual to another by contact—a human malady, a pathogenic organism entering the body by surface inoculation, and produces physical as well as pathological changes.

Its presence in our midst is simply a disgrace to our present civilization. Just at the present time we have a governor competent for the work of obliterating this microbe from our midst. He has all the moral and religious elements in his grasp, the strength and power to give an impetus to public opinion on the subject, to bring out the higher elements of human nature. Solicitation, the selling of the body for prostitution as a means of living certainly can be prevented.

At the same time better housing, means whereby the growth of modesty and chastity should be fostered—rational health amusements for mind and body provided; curtail all influences that materialize precocity and animalism.

One thing is sure, *the syphilitic virus has been, is, extensively dispensed in this community*.

Prostitutes, as persons carrying on a pernicious, unwholesome, disease-breeding trade, should have the benefit of license and biweekly examination.

PROPAGATION OF SYPHILIS.—*Etiology*.—Syphilis is a monstrous disease, terrible in its effects, and probably never more widely spread than at present. The bacillus of syphilis is not an aerobic germ, possessing more weight than many others, not volatile, but most active in some secretions. Once the germ enters the blood-corpuscles, and if vital force be kept high, it may never show itself; never sporulate.

Since the discovery of this germ, its mode of propagation and culture, and also the important discovery that all the secretions of the body of a syphilitic patient are contagious, a complete change has taken place in the minds of all physicians on the nature of this disease.

All the secretions, all the serum or matter of an ulcer, or skin eruption are most contagious. Inoculation from the blood of

one affected will cause it in the healthy. One secretion or juice of an eruption may be more heavily loaded with the germ, and thus more contagious than another. Thus, for example, the saliva, the mucous tubercles, or the serum of a pemphigus are agencies through which the germ is most easily communicated. A nursing mother who has syphilis is bound to impart to every child who nurses with her. It seems to be very active when derived from the fresh saliva, tears, sweat. Inoculations made with these fluids afford every time positive results.

Kissing is a most prolific source of the disease; next comes mucous tubercles; sleeping with persons next—the fresh secretions from an eruption; washing the clothes of the affected; close contact of any kind. Babes often have the germ from their parents—any mother nursing or kissing these germ-laden specimens of humanity.

Cupping, tattooing, dental forceps, catheterism of the urethra or Eustachean tube, speculum, syringes, drinking-vessels convey the bacillus.

Glass-blowers are often infected; wind-instrument players from the tubes of some infected person. Sleeping in a bed recently tenanted by a syphilitic individual is by no means safe.

The diagnosis of the presence of the venereal bacillus must never rest upon the presence of an indurated chancre, for the disease may be caught in a hundred other ways, from fresh secretions; neither must it rest upon nocturnal pains in the bones; nor upon a copper-colored rash, caused by the microbe whose ptomain poisons and blunts the sensory nerves of the skin; nor upon an ulcerated mouth and throat; nor upon enlarged lymphatics; nor upon bone tenderness; nor upon periosteal swellings, with nodes; but one recognition of all such cases should be made by themicroscope alone, either from the fresh secretions of a sore on genitals, mouth or skin or from a thin slice of the enlarged lymphatic, or, better still, from a drop of blood or rupial patch.

The germ must be recognized as the special infective agent; in syphilis its ptomain, as a poison which blunts and paralyzes sensory nerves. It is the microbe which excites plastic inflammation in brain, bone, skin and mucous membrane, and other parts, and creates a definite arrangement in the weakened tissue.

The syphilitic bacilli do not occur free in the tissues, nor in the blood, but are for the most part present only in large oval, or polygonal, cells, in the interior of which they lie in groups

of two to eight, often crossed or twisted round one another. As a rule, they congregate in nests, seldom isolated. Sometimes several sections have to be examined before a well-formed nest can be detected or found.

The venereal bacillus as found in all syphilitic new formations, as in the chancre, or lymphatics, or ulcers on the mouth, tongue, or from a rupial patch, or gummata, or any fresh secretion is usually bent, slightly S-shaped. They show little knob-like swellings at their ends; their contour is not quite uniform, but is more or less wavy, or indented at several parts. When the finest possible section is highly magnified we can see the bacillus most distinctly in clear, oval refracting spots, two to four in number, placed at equal distances. These spots are spores.

Take the bacillus or a nest, plant them in beef juice, keep at a temperature of 98 degrees F. and in twenty-four hours perfect cultures are formed, which, when injected into animals or man, produce the original, typical disease in all its malignancy.

This microbe is visible in every case where there is a coppery ulcerated throat, or a coppery eruption on the skin. They are most abundant in the rupial rash, with the hair falling out.

In the demonstration of these bacilli we employ a solution of chloride of iron to decolorize either the section or cover-glass preparations. In this method, the sections are stained for twenty-four hours in fuchsin, then washed in water and subsequently placed for a few seconds in either pure or a diluted solution of chloride of iron, washed in alcohol, and then transplanted to the oil of cloves. The syphilitic bacilli remain red, or reddish violet; the tissue remains unchanged. Double staining does not alter the result, nor anything to the distinctness of the illustration. This is the best method for the staining of the syphilitic germ.

Occasionally we have found this bacillus in the smegma of the prepuce, and in the vulva, which presented the same apparent morphological appearance; we have been unable to obtain cultures from them.

We present the views of eminent members of the profession on the venereal disease:

When the venereal bacillus enters the body, it has the power of multiplying in and acting upon the living tissues, at the same time elaborating deadly toxins, which give rise to a variety of constitutional symptoms, which vary according to the status of vital force.

Each one of the pathogenic microbes has its own mode of growth, and selects a gland or tissue for which it has an affinity, but the syphilitic microbe grows luxuriously in every gland, organ or structure, if it be only weakened.

Like all other disease germs, the presence of syphilis in the body renders that individual capable of propagating it by contagion and infection, for this pathogenic microbe can enter the blood through the mucous membrane, without an abrasion or sore or breach of continuity—close contact being sufficient, inhalation of the breath, absorption of sweat, or from bed-clothing and bathing garments. Non-infected become infected in workshops, handling tools of the infected; towels, smoking pipes and sleeping with the infected are prolific sources of contamination.

There is no use of such senseless prattle to the embryonic doctor, as primary, secondary and tertiary stages, for there are none, the microbe invariably selecting the weakest part; neither is there any use in asserting its incurability, for there is now no disease germ able to withstand the array of bactericides in the laboratory of the chemist.

Diet of the best, clothing, bathing, change of scene—all means capable of improving the general health—are good.

Medicated baths of iodine and sulphur are of efficacy, inunction into the lymphatics of the axilla and groin with an oitment of chrysophanic acid has merit in it.

Protonuclein may be persistently administered, so as to crowd the bacillus of syphilis out.

Affected individuals of this class expect a radical course of treatment to destroy the germ and insure their speedy recovery, and they should have it..

The question is, What is our best remedy? Is it mercury, iodide potassa, periodate aurum or chloride of gold? or is it phytolacca, sulphur or comp. saxifraga?

Judging the merits of a remedy by its sale, we would say the ozonized comp. saxifraga is many thousand gallons ahead of all other remedies; its formula embraces every drug of known efficacy, except mercury, which can be added if the physician so desires.

All the leading physicians of the world use it for the radical cure of syphilis, and were it not for saxifraga our country would be depopulated by this bacillus.

Take another view of it:

Syphilis is the outcome of a prolonged struggle for life

between the invading microbe and the phagocytes. All we see of syphilis is the action of a toxin which the bacilli produce. This toxin acts locally and generally—locally by inducing inflammatory action, cell-infiltration in the areas occupied by the colonies of microbes; generally by diffusion through the blood, causing toxemia, with degenerations, anemia, muscular wasting, nervous lesions, such as optic atrophy, ataxia, dementia, paralysis, etc. Rational treatment to kill the germ, or reduce its activity, or break up the toxin which is the cause of the lesions.

Ozonized comp. saxifraga and periodate aurum check, control, kill the growth of the germ of syphilis. The same germicides permeate the phagocytes, aid their vital energy in destroying the microbe.

We have in these two remedies the means of eradicating the disease.

Natural cure means total destruction of the bacillus by the phagocytes, which is effected by good diet, clothing, comfortable housing and baths; complete means going into the spore state of any surviving microbes. Then, the toxin ceases to be formed and complete health is restored, till some local or general depression of vitality causes the resting or quiescent to develop.

The general health must be kept up in every possible way, since any enfeeblement means weak phagocytes, a lowered power of the vital forces, which favor microbic activity.

There is no better remedy for syphilis than saxifraga, as it wipes out the toxin rapidly and its removal enables the cells to assume the spore state, and the typical symptoms disappear with the toxin formation.

The remedy should be given in water, as it is more effective, and never in larger doses than one teaspoonful three or four times daily. The toxin is quite soluble and its excretion by the kidneys will be promoted, if the supply of fluids is increased.

Once the bacillus of syphilis finds an entrance, its future course, either generally or locally, depends on vitality. Good, strong, vigorous vitality, well maintained, it may never show itself; remains latent. Lowered vitality, germ activity. If an organ be depressed, such as the brain or stomach, or spinal cord, or lungs—then syphilis of that organ.

Take an example in gastric ulcer, a simple erosion of the mucous membrane, either acute or chronic. The acute is usually small, round, looks as if it was punched out of the stomach

walls; the chronic, large, irregular in shape, very common in middle or advanced life; more than twice as frequent in men as in women, and if that individual be syphilitic, so will the ulcer be, and must be so diagnosed. If there be no sternal pain, no nocturnal headache, no enlargement of the post-cervical glands, no copper-stained tissue, there will be the copper-colored mucous membrane of the hard and soft palate, pain after eating, local tenderness not great, irregular vomiting, considerable grumous or coffee grounds; often fetid, and if dilatation of the stomach exists, fermentation and the sarcinæ, which is yellow, with great wasting of the entire body.

Such cases tolerate the periodate aurum well, but they are not only benefited by that on the tongue, but one or two or more grains of jelly of violets, a powerful local anesthetic, mixed with thirty grains of ichthyol jelly, administered thrice daily, rapidly heals the ulcer, removes all the irregular, indurated edges, everted or inverted, hematemesis and melena disappearing. This treatment is a success.

WITH REGARD TO THE BACILLUS OF SYPHILIS.—For a correct and efficient treatment all old ideas as to its pathology, of a pock, primary, secondary and tertiary stages, must be obliterated, for the germ may find an ingress in numerous ways into the blood, and when once there strike for tissues that are weakened for its habitat—there it will grow.

Many millions of both sexes have the latent germs of syphilis in their blood which never appear, simply because the individual who has received the germ, either by contagion or infection or inoculation or by vaccination, maintains a high standard of health; but let there be the slightest possible depression, there will probably be lassitude, headache, osseous pain, liver trouble, bronchial irritation, some indisposition, for the toxin of syphilis is a subtle and rancorous poison, insinuating itself into the bone-marrow and cerebral arteries.

To annihilate this germ in the blood, in every solid and fluid in the body, is the aim of all sound treatment. Various remedies have been placed before the profession for this purpose, none precisely specific, for such do not exist.

From the vegetable kingdom, the comp. saxifraga ozonized is the most reliable of all alteratives; each teaspoonful of this valuable remedy contains five grains of the iodide of potassa.

Old, reliable practitioners, well grounded in orthodox methods, believe in the efficacy of mercury as a potent germicide, and they add one-twtlfth of a grain of the bichloride of mer-

cury to each teaspoonful of the saxifraga, which makes the preparation the protiodide of mercury—supposed to be eliminated after it has performed its work of inhibiting the growth and killing the syphilitic germ in the body.

As saxifraga is dispensed it contains no mercurial preparation whatever; if desired it must be added.

Preparations of gold have some little efficacy on the annihilation of the germ; the chloride of gold and platinum in pill form and the periodate aurum are considered the best.

In the process of transmission typical types of the disease are delineated, the original pock on the skin and mucous membrane, stomatitis, interstitial corneitis, which have no parallel; deafness is common in inherited cases. The pegged, notched teeth are also significant.

All germicides, if administered properly, bear upon the death and extermination of germs, upon wiping out the microbe of syphilis from the blood and tissues. As an antisyphilitic germicide, never failing in its action, comp. syrup of saxifraga stands unrivaled. Its action upon the syphilitic germ is utter annihilation. Its action is greatly aided by administration of a few grains of the periodate aurum every other day, and a good tonic, either sulphate of quinine or comp. tincture matricaria.

SYPHILIS.—It is a good rule in practice to destroy all chancres with formalin, whether they be infecting or otherwise, as it is most effective, penetrates deeply through the induration, the focus of the germ dissemination through the blood. Excision, if it can be effected without mutilation, is justifiable, to get rid of this fountain of microbic growth.

Treatment in all cases should be commenced at once with ozonized comp. saxifraga and periodate aurum, and persevered with for some months. They are most reliable remedies to kill and eradicate this germ. A dressing of ozone ointment, morning and night, is usually sufficient, unless some complications such as phagedena should take place, when the peroxide of hydrogen should be applied in full strength, and changed every few hours, and reapplied again and again.

Syphilis is a curable affection when those remedies are used, but they should be pushed thoroughly and systematically.

Regularity of living, avoidance of all insanitary conditions and of alcohol are indispensable auxiliaries, together with good food, warm clothing.

The syphilitic germ, like all other pathogenic microbes, when

once it finds an entrance into the blood, no matter whether by a sore, or simply contact, usually manifests its activity and growth in weakened parts of the body, hence we have such states as brain and bone syphilis, syphilis of the eye, mucous membrane, lungs, liver, spleen; such states are usually easily diagnosed without a history of the case, by the toxin of the microbe paralyzing the sentient nerves of the part, lack of sensibility; the toxin stains the tissues copper colored, invariably in this state of partial death, gives rise to nocturnal pain.

Whenever this germ is recognized as being present, begin constitutional treatment at once. The worst subjects to cure are the tubercular, who in addition to the regular antisyphilitic treatment should be placed upon glycerite of ozone and guaiacol; comp. saxifraga ozonized and periodate aurum annihilate the microbe of syphilis.

The vices, the defects of civilization, the keen struggle for existence, weaken the central nervous system, and if the pathogenic microbe of syphilis be present in the blood, it will find its way to weakened parts, exciting meningitis, thickening, gumma.

The recognition of such cases may be obscure, but if the evening headache, giddiness, mental excitement, insomnia be noted, together with convulsions, commencing in a limb, with consciousness retained, a strong case is made out. Very much of the present paresis, locomotor ataxia and paralysis are due to the toxin of the syphilitic bacillus, which the attending physician recognizes, but fails to pronounce.

Phrenal syphilis is simply brain anemia, and with such remedies as thyroid extract, spermin, cerebrin, oats, we entertain a most hopeful view of the case, more than when those symptoms are due to degenerative changes, induced by sexual excesses and seminal losses.

The treatment by increased cerebral nutrition, by pushing internally comp. saxifraga and phytolacca, and brushing the entire length of the spine from top to bottom, a few inches wide with the periodate aurum.

THE MICROBE OF SYPHILIS ON THE SKIN.—Once the venereal bacillus finds an ingress into the blood in man, woman or child, it is liable at any moment to appear on the skin, and the behavior of the germ here is somewhat different from other germs.

In its growth on the skin the microbe excretes a toxin which paralyzes the sensory nerves: so whatever the character of the

rash may be, there is neither pain nor itching, nor burning of any sort.

Wherever the microbe may be it has a most extraordinary tendency to form nests in the skin, mucous membrane, hair, nails, brain, lung, lymphatics, periosteum. Therefore the type of all syphilitic skin lesion is generally papular.

Wherever the syphilitic bacillus localizes its presence gives rise to fever and inflammation.

It invariably causes discoloration of the skin; in the Caucasian, copper colored; in other races of men, black.

No portion of the body is free from the germ. Once it has invaded the body it may involve the whole or a part of the skin; it may form a labial condylomata; it may exist on the nipple, as a crack or fissure; or form rhagades between the toes; or a fisure on the tongue; or aquamous syphiloderma on the hands or feet.

As the vitality of the skin is often impaired, weakened from some cause, it is on this gland that the microbe most generally appears. The irritative effects of the pathogenic bacillus upon the cutaneous surface give rise to every form and variety of eruption, in all of which the microbe can be detected, isolated, and even cultivated; the more coppery and insensible the rash the many more millions of germs are in it.

One of the most common types of skin affections caused by this microbe is roseola, on the chest and abdomen chiefly, although other parts of the body are often implicated. Intermixed with this roseola rash there are often found rose-colored circular spots, so closely set that they are very little apart, while in some cases they are very scarce. These spots under high microscopic power have been found to be simply nests of the germ; they are seldom raised.

Mingled with this form of skin eruption, there is often seen a lichenous rash, small papillæ, copper colored, which terminate desquamation, the microbe peeling off in shreds.

Again, if vital force be terribly shattered, the tubercular bacillus may appear with the pathogenic microbe, and both migrate to the surface together in the papillary layer of the skin. The epithelium covering these tubercles also desquamates and comes away in fine powdered scales. After this peeling off takes place it assumes a dull red or copper color.

In very debilitated cases the tubercles die and give rise to ulceration; in others they do not, while in others permanent pigmented scars are left. The forehead, nose and cheeks are

the favorite location of tubercular-syphiloid germs, the resulting pigment scars being unsightly.

Still lower vital force, more wreckage of the nervous system, the venereal bacillus may appear in the form of another eruption on the chest and abdomen, then on the arms and legs; it is a scaly or squamous eruption termed *psoriasis*. The rash consists of circular spots, slightly raised above the surface of the skin. Sometimes they appear white from the havoc and *débris* of the syphilitic germ; rub this off, a dark reddish hue appears.

The palms of the hands and the soles of the feet often suffer with this form of rash, which is invariably persistent and intractable.

These cases are recognized by their history; their coppery color.

Vesicular and pustular eruptions are also common; in the former, in the effused serum of the vesicle or pemphigus, the syphilitic germ is found; in the latter, effusion of lymph (eothyma), the germ is also present. In the latter abscesses are common, which produce cicatrices which are difficult to obliterate.

With the microbe of syphilis in the blood an eruption of almost any kind may appear—all assume the copper color and a remarkable loss of sensibility.

The cutaneous appendages, the hair and nails, often suffer from the ravages of the microbe; the matrix of the hair is often eaten out, the hair becomes loose and shed themselves in great numbers; frequently the head becomes bald, and the hair of the face and other hairy parts may share in the same destruction. In most cases the baldness so caused is not permanent, the hair growing again when the microbe has been killed in the blood. The nails may suffer, become brittle, reedy, break off and, in some rare cases, the germ excites inflammation in the matrix, which gives rise to intractable inflammatory changes.

To recapitulate then, the microbe in the form of a roseola is its most common form on the skin; it may occur on a portion or over the entire body. Vascular changes in the capillaries, occasioned by heat, cold, rapid cardiac contraction, influence the progress of the germ to the surface; any excitement or stimulant may throw it on the surface.

So also with the lichen or papular rashes.

The vesicular only occur among the most dilapidated or

broken down, with meagre food and insanitary surroundings; they are not so common. When they do occurthey may be from the size of a pinhead to a pea, conical, globoid or umbilicated; isolated or grouped, and crusting elevations of the epidermis, with lucid or cloudy contents; situated on any part of the body.

When the bacilli are very numerous in the blood; when the powers of life are very low, and everything of the most degraded and filthy character, the vesicles become very large, like half marbles or hens' eggs on the surface of the skin of the body and mucous membrane of the mouth. These vesicles, small or large, become pustular, or, in other words, *rupia.*

Rupia is a form of ulceration of the skin, a sequel of the vesicle eruption, pemphigus, or it may take place without any effusion of serum. It is met with only in syphilis and consists entirely of a mass of syphilitic bacilli—brood after brood, in all stages of growth, from the spore to the mature microbe. It is estimated that in each vesicle or ulcer, or pustule or scab, there are millions in it—not dead but capable of inoculating others.

The young brood below the scab throw the mature swarm off and produce a fresh crop, increasing every time the circumference of the ulcer. In this way there is a constant increase; the recent scabs are larger than the earlier ones.

There may be a few or a vast number of these rupial sores over the patient's body—all of a dark-brown color. They may be discrete, confluent, disseminated or in groups, effecting the curve of a circle.

To the ordinary practitioner these germ nests are difficult to treat, but with bactericides, and physicians who believe in that theory, with our specific treatment check their growth and consummate their death by complete annihilation.

When an individual, possessing the tubercular diathesis, receives the syphilitic bacillus either by an impure connection or by contact, the two distinct disease germs in his blood give a peculiar aspect to all eruptions or sores, causing them to become serpiginous, or a horseshoe shape.

The presence of two of the most destructive bacilli in the blood produces fearful ravages, and exhibit themselves as mucous tubercles around the various orifices of the body, and in a most intractable form of skin eruption, all of a round or horseshoe shape. The areas of those syphilitic-tubercular are most variable and peculiar for the atrophic changes which take

place. Even the scars following the typical lesions retain their color, shape and pigmentation.

The best plan in those dual cases is to place the patient upon both the treatment for syphilis and tuberculosis, such as comp. saxifraga, alternated with cacodylate of sodium thrice daily, with periodate aurum at bedtime. The next alternate week mistura guaiacol, alternated with phytolacca, and so on.

Syphilis Malignant is usually caused by meagre diet, insanitary surroundings, mercurial drugging, its association with the germs of tubercle and cancer in the same affected individual.

When it assumes this malignant type it takes on either impetigo, ecthyma or rupia. This embraces the rupial division of syphilitic eruptions. At the commencement or at the first appearance of either of those three forms, a red spot is first seen, on which pustules arise. These burst and a greenish crust forms over an irregular ulcer, with small-sized granulations, and surrounded by a red circle. Rupia is most common on the lower extremities, but may extend to the whole body. Pemphigus is often the precursor of this condition. In such cases the nerve centres are dreadfully shattered, and the whole body literally saturated to overflowing with the microbe.

Among this class of cases small tumors of a dusky red color often appear; occupy the entire thickness of the skin. These gradually soften and give rise to phagedenic ulcers. Some of these tumors contain millions of syphilitic bacilli. Fortunately at the present time malignant syphilis in our country is very rare.

When malignancy stamps its impress upon an individual saturated with the germs of syphilis he must have best of food, sulphur baths, hygienic surroundings, in addition to saxifraga and periodate aurum; should likewise be put upon echinacea, cacodylate of sodium, c. p. solution of spermin, matricaria; most energetic treatment.

Squamous or scaly affections, as syphilitic psoriasis, are common and are not infrequently mistaken by very many physicians for lepra. Syphilitic psoriasis is found in the form of round copper-colored elevations, with white scales on the chest and arms; on the feet and hands purely copper colored, with hard scales.

The best plan to distinguish this from the common forms is by a microscopical examination of the scales for spores of the germ, for if the protoplasm operated by the germ be young

the toxin coloring (copper) may not be present. In old protoplasm the character of the projecting patches, of copper hue, covered with hard and grayish scales, there is no difficulty in its recognition, even by the eye. The pigmentary eruption (toxin) is hard to wipe out, but the three remedies, compound saxifraga, periodate aurum and sulphate of quinine, for a few months effect a complete change from disease to perfect health.

Vesicular eruptions, small or large blebs filled with ordinary bacteria and the pathogenic bacillus of syphilis, are not so very numerous—that is, do not occur so frequently as one would suppose. Sometimes we meet with a few in groups which may form a crust and thus resemble eczema; at other times they may be as large as small marbles or eggs; a few or they may cover the entire body and even the mucous membrane of the mouth. If their protoplasm be young they may not be stained, but in old cases they are invariably stained around their base, surrounded by a coppery areola. In several weeks, if not ruptured, these vesicles become pustules, their contents changed form a serous to a yellowish pus mixed with blood; by and by the crusts become brown, with the microbe imbedded in it.

When they dry up in this form, they form what is termed *"rupia,"* a rather formidable form of eruption which, in the hands of some inexperienced physicians, often prove fatal, from the fact that the blood is litedally saturated with the germ.

The onyx of the nails is frequently a favorite location for the localization of the germ; in that case the onyx is tinged yellow or copper colored by the action of the toxin.

The presence of the bacillus in this vicinity is most disastrous to the nutrition of the matrix. In its imbedding itself at this point it excites irritation, inflammation, ulceration. This usually begins at some part of the lunula or root of the nail, and the toe becomes swollen and of a deep, black red. The nail generally drops off, and if neglected the phalanx may suffer necrosis and gangrene and require removal. The most powerful constitutional treatment should be pushed, together with germicide treatment for the destruction of the germ; locally keep it packed with peroxide of hydrogen in which a percentage of sulphocarbolate of sodium is dissolved.

THE SYPHILITIC MICROBE ON THE MUCOUS MEMBRANE.—In what we deem healthy states of the mouth and throat there are some germs present but, when malnutrition or some other depressing influences act upon the mucous membrane, its pri-

mary elements or molecules of nutrition are changed, altered, degraded into other living matter which has special and independent powers of existence, and is named a disease germ. The degraded primary element of nutrition of the mouth, under adverse states, constitute what is known as the oidium albicans and leptothrix mingling together in vesicles or nests, small blisters followed by ulcers, which is described under the name of aphthæ. This may occur in any one liable to malnutrition and weakness of the mucous membrane.

Suppose an individual with a devitalized mucous membrane, with aphthæ, with its two microbes, has the pathogenic venereal bacillus in his blood, it will migrate at once to this weak point, where it will grow alongside of the odium albicans and the leptothrix, shed its spores with such wonderful rapidity as to become the predominant microbe of the three in the mouth.

It is the leading germ, as is seen by the copper-colored appearance of the sores or ulcers; by the prodigious number seen in the secretions of the ulcer; by its great potency of seeking other mouths in kissing, and instantly communicating the disease.

The entire mouth may be but an immense pasture field for the germ, or only a portion may be affected.

The lips, gums, cheek, often cracked, fissured, ulcerated, all teeming with the microbe in various stages of growth and sporulation.

The mucous covering of the tongue; in the central area we often see a prolongation, or perpetuation of the same rashes as on the skin, vesicles, psoriasis or squamous syphiloids, are often seen here. Warts, or papilloma, due to the syphilitic germ are not also uncommon on the edges and at the root or base. Both on the dorsum and tip are often found gummatous growths. These often vary in size from a pea to a walnut—typical, positive evidence of the disease.

But the common leading affection is syphilitic aphthæ, vesicles or blebs, ulcers, superficial or deep; excavations on its surface or edge—in bad cases deep ulcerations may affect its whole surface—or there may be cracks and fissures, resembling epithelioma, usually somewhat persistent, intractable, liable to dangerous changes unless bactericide treatment is rigidly carried out.

The larynx suffers with the tongue, congested, inflamed, either superficial or deep ulceration. It is to this germ-eaten state of the larynx, more than anything else, that we owe the sore throat, the huskiness, hoarseness and loss of voice.

There seems to be no tissue in the body so rich in pabulum for the syphilitic germ as those in and about the larynx. So it is here, if there be a weakness to attract it, that it makes such dreadful ravages—frequently commencing in the epiglottis, which it often completely destroys; it penetrates to the vocal cords and eats them out. The cartilages of the larynx are often attacked, and either ulcerate or necrose. In consequence of the very considerable formation of fibrous tissues which follow the ulceration, the glottis is sometimes stenosed and dyspnea results.

The tonsils sympathize in all cases; even when the microbe but slightly infiltrates the tongue, with greater microbial growth or evolution, they swell greatly; ulcers of a circular shape, intensely copper colored, with sharp-cut edges penetrate deeply into their substance; the base of those ulcers often slough.

The lining membrane of the nose being in such close proximity to the mouth and throat, often becomes attacked by the microbe; destructive metamorphosis is not nearly so common, since the use of mercury has been discarded in treatment.

Of all the structures in the body none seem to have such an affinity or attraction for the venereal germ as the mucous membranes of the body. In the throat we find, in all cases of syphilis, a uniform redness on the velum palati; tonsils and pillars of the fauces; later on, on the posterior wall of the pharynx and the interior of the larynx, which appears to proceed down. The mucous membrane of the nostrils also shows symptoms of the presence of the microbe. In snipping off the top of some of the raised tops of the patches on the larynx you can readily isolate the bacillus, but they are more numerous in the ulcers on the edges and surface of the tongue, on the fauces, in the nostrils and sides of the lips, and on the internal aspect of the lips. They are usually superficial, return again and again for years with annoying precision until the treatment by comp. saxifraga, ozonized echinacea, periodate aurum and alkaloids of cinchona are brought to bear on the case for many months.

There are also certain appearances which are only seen when this great pathogenic microbe is in the blood. These are characterized by elevated patches in the skin or mucous membrane, circumscribed and more or less whitish in color, or rose white. These are developed sometimes on the healthy surface. On the skin these germ nests are covered with a transparent

crust, and surrounded by a swelling. On the mucous membrane these germ nests are a little prominent. The vulva, the anus, the upper part of the thighs, the tonsils, mouth, lips and spaces between the fingers and toes, the nipples, groin and ears are most frequently affected. On the scrotum the merest patches are often met with. In the mouth they are at first of a violet hue, and then fissures of the tongue often ensue. They are whitish on the velum palati, and are also found on the vocal cord, and one out of every six cases of hoarseness are due to the presence of the syphilitic germ.

Such appearances are seen at the edge of the nostrils and mouth for years, and are cases essentially of great danger; they often disappear and recur, but remain a focus of contagion until inhalation, several times daily, of either peroxide of hydrogen or chlorine, or chlorate of carbon, and internally saxifraga, periodate aurum, quinine, ozonized echinacea.

Syphilitic Ulcers.—Cutaneous ulcers are breaches of continuity of surface either caused by inflammation or some unrepaired injury. They are usually divided into simple, inflamed, irritable, chronic. Such ulcers are liable, when any special microbe is in the blood, to have its appearance in the ulcer, which modifies, changes or alters it completely into a nest of breeding germs. There is no form of ulcer without some special germ, but when the bacillus tubercle, or syphilis or cancer is present the microbe can be isolated from the ulcer and cultivations made.

Probably the syphilitic germ is present in the blood and tissues of seventy-five per cent of our entire population.

The native-born American, as a rule, is comparatively free from the venereal bacillus; whereas if we take the foreigners who annually emigrate here, all are tainted, and if there happen to be a few free from all blood-germ taint they are inoculated at quarantine with vaccine charged with syphilitic germ-laden lymph. No escape, for the health physician must have his fee. This is a procedure, an indignity to our race, but it is a definite measure for the propagation of syphilis among those who seek our shores.

The recognition of a syphilitic ulcer is easy; its copper-colored appearance and the presence of the germ in the discharge.

The great trouble with all syphilitic ulcers is, if they are treated erroneously by physicians ignorant of their nature they are extremely liable to assume a phagedenic form—a state of things in which the ulceration spreads rapidly, the tissues

breaking down and becoming disintegrated. When sloughs form around the margin of the sore and it becomes painful, spreads widely, syphilitic phagedena is present.

Sloughing, eating, painful ulcers with constitutional disturbance indicate great depression and vitiation of the blood.

It is impossible for any one now to suffer from ulcerative phagedena, mercury seldom used. Sanitary science thoroughly understood and germicide remedies, peroxide of hydrogen, chlorine, saxifraga, periodate aurum, echinacea and tonics to improve the general health and restore a healthy condition; our local antiseptic dressing at once arrests the ravages of the disease.

In patients who have been mercurialized, or happen to be surrounded by insanitary conditions, any syphilitic ulcer may assume a state of either dry or moist gangrene.

When this occurs, the edges of the sore becomes painful, swollen and livid; a grayish slough covers the surface; the discharge becomes thin, watery and scanty.

If the progress of this local death be not arrested the destructive action spreads with fearful rapidity. Vessels may be opened, bones laid bare; profuse hemorrhage may set in. These local symptoms are usually accompanied with great constitutional disturbance.

In these cases the strength must be upheld by a generous diet and stimulants; pain must be alleviated at all hazards. The sore must be treated by powerful germicides, and the same class of remedies given internally. Patients getting into such abject states can readily trace the cause to its proper source. Under bactericides, benign and efficacious treatment, we never have complications like this.

ALOPECIA is most common in the asthenia form; that is where great debility and general feebleness of the powers of life exist.

Alopecia is due to the activity of the bacillus in the blood penetrating to the hair-bulbs; to a want of nutrition; to the excreting of toxins, poisoning the hair-bulbs or root, causing the hair to fall out without redness of the scalp.

There is often a general tendency to free thinning of the hair in patches—the beard and eyebrows often suffer.

The alopecia may last many months, but the hair soon reappears when the germ is killed and the health restored.

Internal bactericide remedies should be pushed with great energy in those cases, especially chlorine and cacodylate of sodium.

The resorcin ointment is an excellent remedy to apply to the scalp in all cases of alopecia. It softens and smoothes the hair, promotes its nutrition by neutralizing the poison in the hair-bulbs. The ozone hair restorer also excellent. The thyroid extract has done much in alopecia in starting a new and healthy growth of hair.

The Bacillus of Syphilis in the Brain (*Phrenal Syphilis*).—Nerve tissue, being intrinsically the most valuable structure in animated nature, is the most highly vitalized, the most effective in resisting depression, the most difficult to weaken, and above all it has a most remarkable faculty in resisting the ingress of the syphilitic germ—even when the blood is germ laden the brain will resist their localization of those copper-colored micro-organisms.

We need no history of a case, as the germ often gains access to our bodies by some slight indiscretion, some impure connection without a visible pock.

What of those mysterious headaches,—aches, pains; that unaccountable languor is due to the syphilitic germ feeding upon brain-tissue,—insomnia, vertigo, nerve storms, as epilepsy and chorea, paralysis, aphasia—neuroses of all descriptions occurring in middle life, when the diploetic structure of the skull has become obliterated; when ossification is completed—all are significant, especially of these: numbness, formication at night, with heats and colds during day.

If such symptoms radiate from an individual, even were he a deacon or a priest, look for *phrenal syphilis,* because, as a rule, tumors, abscesses, organic lesions, white softening are rare at the early period of life.

Our readers must bear in mind that in every town and city of our country the germs of syphilis are widely spread, minutely diffused in various forms. No man or woman can say that the germs of that terrible bacillus are not lying latent in their blood. No one can deny that the germ is not an eating ulcer in our land. We all know that it enters our bodies from the breath, sweat, contact of the affected; by handling articles in ordinary use; by drinking vessels in our parks and public places; towels; sponges; sleeping cars. We receive the bacilli unconsciously, and if we maintain good health it will not sprout.

We must accept the inevitable; if we cannot elucidate the symptoms on a good basis, we are justified, at least, in placing the patient upon special remedies to destroy the venereal bacilli,

and aid in increasing vital force by every possible means. True syphilis is the saddest affection of the human race, especially when it invades the brain.

The pathogenic microbe of syphilis, the very moment it enters the blood, will, if the brain be weak, exhibit its ravages upon that organ. This is also true of brain workers, who have overworked that organ. We have seen many cases in which the microbe went for the brain alone without any manifestation on either the skin or mucous membrane. These cases of cerebral syphilis occurred among clergymen, school-teachers, attorneys, merchants—all individuals who suffered from brain wreckage.

The germ in the brain produces either nests, gummata or sclerous arteritis, which is followed later on by brain-softening. The germ produces in the brain the same lesions as it does in other parts of the body. The lesions of the meninges are sclerous meningitis and gummy meningitis, of which the first is the most common. These are the most important of all the lesions which syphilis produces within the cranium, because most frequent and severe in their effects. Their action may extend to the nerves, the vessels or the brain substance. When the germs act on the nerves they produce palsy of the cranial nerves; when on the vessels, they compress, narrow or occlude those, and when they act on the brain they may do so by their ptomain poisoning it, or by the obliteration of vessels which nourish it. Sclerous arteritis takes place in this way: first there is more or less abundant proliferation of the young germs in the vascular sheath, or in the coats of the vessel; then comes progressive organization of these germinal elements, with formation of rigid and fibroid lamellæ, with deformity or obliteration of arteries. Stenosis, thrombosis, and complete obturation of the vessel may result.

Cerebral gummata have been seen as large as a walnut or hen's egg. They may occupy any part of the brain, but are generally located on or in the cortical substance in the periphery and most frequently in the front part of the brain and middle portion of its base. Syphilitic nests or gummy tumors in the cranium have been mistaken for cancer and tubercle. Tubercle is found only in the tubercular and has a predilection for the cerebellum. Gummata are followed by softening, which is not common in tuberculosis.

The common lesions resulting from the presence of the germ in the cranium are inflammation and softening. The leading

symptoms produced are headache, epilepsy, paralysis, aphasia and the mental malady of imbecility, mania.

Once the bacillus of syphilis enters the brain it produces a condition of chaos.

The commonest form of phrenal syphilis is that of progressive dementia; but delirium and mania are not at all uncommon. Syphilitic insanity is a common malady, much more so than is generally supposed. Persons with cerebral syphilis are often remarkable for want of memory and intellectual debility. Such persons become nonchalant and forgetful, and commit many gross errors and faults in business. The patient becomes quite unlike himself and neglects his family and relations, or maltreats them. The law takes no cognizance of such states; the individual is really not accountable for his actions. Undoubtedly want of memory is one of the most characteristic of the disease. It may be sudden and complete—intellectual depression with incoherence, followed by complete dementia. In rare cases of cerebral syphilis there are seen bad cases of melancholia and hypochondriasis, and the patient may have ideas of being persecuted and desire to commit suicide.

In other instances the lesions of cerebral syphilis may cause excitement, delirium or exaltation. Patients of this kind may have attacks of furious mania. Others, again, become eccentric and excitable, and are considered by their friends as rather out of sorts. They waste their means, fail in business, or talk incessantly. Some are perfect maniacs. They are excessively irascible, often violent or abusive and even dangerous to their friends. They suffer from insomnia, but are often capable of great muscular exertion. In short, the incoherence, delirium, mania, melancholy and all other mental perturbations seen in syphilis are identical with those in other forms of cerebral lesions.

The Germ Syphilitica in Bone.—When the electrical forces of the atmosphere are lowered toward and during night, and the bones and their coverings weak, the microbe, if in the blood, will migrate there and excite periostitis and ostitis, and give rise to great pain, which subsides toward morning. By and by organic changes take place, lymph is effused, round or oval swellings form, called *"nodes,"* when the nocturnal pains become excruciating.

The superficial bones, as the tibia and the ulna, not infrequently become notched like the teeth of a saw, and in young

men or women the joints and head of the bones suffer almost an exfoliation.

The syphilitic germ, when improperly treated, may enter some of the bones and produce dry caries, giving the bone a worm-eaten appearance.

Injudicious treatment, the improper use of soluble mercury by empirics, inexperienced practitioners, in a most remarkable degree influences this form of caries, and they will hold on to it until the external table of the skull becomes eaten like a sieve by the microbe.

This form of dry caries also attacks the bones of the nostrils, although periostitis is almost always the cause of the concomitant ozena. Whilst one part of the bone may be eaten away by the germ, the opposite side may be undergoing a thickening by a deposit of the germ imbedded in the lymph in its interstices. The pain in all cases in which the microbe enters the bone and there grows is nocturnal for the reasons already stated and causes sleeplessness. When in the bones of the head it may result from a node on the internal table of the skull. In such cases there is often great giddiness, with epileptiform seizures and a feeling of tearing and excruciating twisting of the parts is complained of. Dry caries of the skull is characterized by persistent headache, and by slight prominences which have depressions.

ACUTE INFLAMMATION OF THE PROSTATE.—A partial death of the prostate gland at the neck of the bladder may be either acute or chronic.

Acute inflammation of the prostate is generally the result of either a gonorrhea, the erroneous exhibition of remedies; blows; irritation of the genital organs by masturbation, or perversion of the sexual act; irritation of the rectum; exposure to wet or cold; passage of instruments.

The ordinary symptoms are pain, heat in the perineum, frequent calls to make water, with difficulty in doing so. In some cases the swollen gland interferes with micturition, and there is retention of urine. Evacuation of the rectum is attended with pain.

Prostatis causes much swelling of the whole gland, with great pain in the gland, and also in the limbs; fever, prostration.

In the treatment of such cases the patient should be confined to bed; hot anodyne fomentations kept constantly applied. Large doses of the green root tincture of gelsemium ad-

ministered, with cocain suppository into the rectum. If there be retention of urine it must be drawn off from time to time as occasion requires. As soon as the acute symptoms subside he should be placed upon the black-willow bark.

ENLARGEMENT OF THE PROSTATE GLAND.—There is no gland in the entire body which so frequently suffers irritation. If weakened or damaged and the bacillus of tubercle or syphilis be in the blood they are often thrown out into the structure of the gland, which gives rise to rapid enlargement. In simple irritation fibrous tissue is effused; whether microbial or simple there is a natural tendency in the gland after the age of fifty to enlarge from its natural size of a chestnut to that of an orange. When an enlarged prostate is cut into after death it exhibits a very firm, whitish-brown substance, fibrous bands and calcareous deposits; ulcerations and fistulous openings, anterior and posterior. Invariably impotency, urinary trouble, continence or incontinence of urine, with the micrococcus ureæ in the bladder, which gives rise to straining efforts at micturition which tell disastrously on the bladder, giving rise to organic changes, catarrh, thickening, ulceration.

CATARRH OF THE PROSTATE GLAND.—Gonorrhea, masturbation, sexual excesses, perversion of sexual congress, immoral reading, an impure mode of life, bicycle riding weaken the normal vitality of the prostate gland, and give rise to a catarrhal condition—a state in which the natural secretion of the gland is white, shiny, glairy or milky; in which its chemical secretion is changed or altered; in which no spermatozoa can be detected, but in their stead prostatic crystals, and hopeless, irreparable impotency takes place.

Prostatorrhea is essentially a malady of our neurasthenic young men—a most common affection, one that is sapping the growth, vigor and future prosperity of our country, draining its strength and energy. If the place of the robust and healthy are to be filled by these effeminate, weakened, nervous, and physically drained youths it will be most disastrous indeed.

Every man who has a leakage, even a moisture, should consult us either personally or by letter, as all urethral discharges tend but one way.

SYPHILITIC AFFECTIONS OF THE CORNEA.—*Keratitis* is generally associated with much photophobia and lachrymation. Patients of a tubercular and syphilitic constitution are its victims. There is usually some fever, haziness of the cornea.

The syphilitic germ usually enters the cornea at the centre. From the remarkable rapidity of microbe growth the cornea soon becomes hazy and covered with white specks of opacity between the laminæ. There is usually increased vascularity of the corneal vessels. In a few weeks' time the other cornea becomes similarly invaded, unless very active measures are taken to arrest the destructive progress of the bacillus. Associated with this there are other evidences of the venereal bacillus—the pegged, defective teeth, broad and flat nose, thick upper lip, fissured margins of the lops, peculiar muddy complexion, etc., all indicative of the presence of the microbe. Nourishing food, iron, tonics, comp. saxifraga and the aurum and platinum tablet.

IRITIS—EYE AFFECTION OF SYSTEMIC SYPHILIS.—*Syphilitic iritis* is one of the most frequent forms of syphilitic affections observed in the eruptive period of the disease. In a large array of syphilitic cases the author has seen much of this disease, and it is much more prevalent than is generally supposed; even that myopia of school-children so much talked about, nine cases out of ten are due to the syphilitic germ in their parents, and are cured by us by antibacillary remedies which we use for the cure of syphilis.

Authors speak of iritis as *superficial* and *deep-seated*. In ordinary cases the eye is red from congestion, the iris dull, then of a dusky hue, with occasional small elevations on its surface. The pupil is uneven and more or less altered in form—triangular shaped; the iris sometimes assumes a yellowish, rusty hue. In some cases there is adhesion of the posterior part of the iris to the lens. Physicians ignorant of its microbial origin will treat it and it apparently gets well, but it will recur again and again, year after year, and in this way give rise to irremediable damage to vision. The pain is slight at first, afterwards severe round the orbit. Intolerance of light is uncommon. It is rare for both eyes to be attacked at once; still, they both later on are affected. It is a most obstinate form—stubborn to reach, and unless the patient is placed upon the remedies laid down in this work, with locally atropia (gr. iv to one ounce of vaselin). I have met much of this form of iritis among syphilitic children which is easily recognized by the irregularity of the pupil, the presence of dimness of the cornea.

In some cases of syphilitic iritis the germ migrates to the choroid and retina, and causes destruction of the eye. Besides which the cornea becomes also involved, giving rise to great

imperfection of vision. There is muscæ volitantes, some photophobia and considerable night pain.

In my examination of these cases with the ophthalmoscope, we can see sinuous veins packed with the germs, with hazy, vitreous humor showing the optic nerve in a fog. Patches of exudation are seen on the choroid.

In spyhilitic *retinitis* the optic nerve has an ill-defined outline, and is surrounded by a dirty, greenish zone.

Mydriasis is rare; still, it occurs.

It is well that physicians should be aware that the microbe of syphilis is the cause of both hereditary and acquired blindness; the statistics of all our institutions for the blind will verify this assertion.

Loss of vision may be occasioned by exostoses and caries of the sphenoid bone, or by syphilitic humors pressing upon the optic nerve. There may be complete loss of vision also by syphilitic tumors pressing upon the optic nerve. The same may take place from changes in the interior of the orbit and seen by the ophthalmoscope, such as contraction in the size of the arteries and atrophy of the papillæ. Blindness or amaurosis is not, by any means, rare; neither is atrophy of the disc.

Syphilitic iritis is not uncommonly a loss of vision.

Iritis.—When the nervous system of the patient has been shattered or broke down either by overwork or excesses or meagre food, or insanitary states, or mercurial drugging, or any depleting cause, the venereal bacillus seeks that delicate, sensitive structure of the *iris*. The presence of the germ in this part of the eye is invariably accompanied by pain, aching, headache, with more or less photophobia and lachrymation. The conjunctiva and other structures sympathize, and the iris itself becomes surrounded by a deep zone of congested vessels in which the microbe is at work. The aqueous humor is also infiltrated by the microbe, becomes turbid from their presence, and the effused products of inflammation. This causes a change in the color of the iris as well as a blurred or ragged edge appearance.

The pupil is sluggish, different in size from its fellow. In the anterior chamber, on the margin of the pupil, and in the substance of the iris, beads of lymph may be seen. If iritis be erroneously treated, or neglected, or permitted to run its course the plastic lymph and the ptomain of the germ become organized into a degenerative form of fibrous tissue, which causes a complete adhesion between the germ-laden iris and the lens capsule—even lymph bands extend to the cornea.

The formation of such adhesions, the degenerative changes induced by the bacillus, often give rise to the most persistent form of chronic iritis that can be imagined, with an extension of the inflammation to the ciliary processes and choroid.

The essential elements of sound treatment must be observed, the bacillus must be destroyed with our great specific, the comp. saxifraga and the gold and platinum pill. In addition, rest in bed in a dark room, freedom from care or worry; the best of diet.

The pupil should be kept well dilated by dropping into both eyes a solution of atropia; large doses of sulphate of quinine should be administered, and active stimulation at the nape of the neck, over the origin of the optic nerve, in the medulla oblongata, resorted to.

The affections of the auditory nerve caused by the germ syphilitica are buzzing, whistling, ticking sounds, or deafness of various degrees. The affections of the optic nerve are by no means rare and occur in one out of ten of all cases of cerebral syphilis. They are generally progressive in their evolution. They are of all degrees, from slight amblyopia to complete blindness. Amaurosis and ptosis often exist together. The lesions seen in these cases are known as optic neuritis, and atrophy of the disc. These states testify to the presence of a lesion seated behind the optic nerve, within the cranium.

Ptosis, a dropping of the eyelid, is not infrequently the sole lesion observed in cerebral syphilis—the germ attacking the centre of innervation of the upper eyelid.

A palsy of the eyeball is more rare.

RHINITIS.—A very gloomy and foreboding condition, dangerous, is when the germ attacks the lining membrane of the nostrils, and gives rise to ozena. One nostril is generally first invaded and the patient complains of obstruction and sometimes of pain at one point. The external integument becomes red and inflamed. Serosanguineous fluid, loaded with *germs,* begins to exude, and is often very fetid. When the inflammation is confined to the anterior part of the fossa, crusts are seen covering ulcers. If the germ is not annihilated it will attack the cartilages and bones of the nose and may cause the nose to waste—atrophy. This is a serious lesion and requires energetic treatment, vigorous medication with our best remedies. Topical applications are of little avail when the germs have penetrated deeply.

Ozæna syphilitica and numerous cases of nasal catarrh ex-

hibit in a marvelous manner, the opedations of the germ in the nose. The nasal canal invariably exhibits irritation in systemic syphilis, and the bones not infrequently become necrosed by the germ.

The nasal canal has long been known to become inflamed in syphilis; especially in old, neglected cases the canal is badly damaged, being literally germ-eaten.

General Treatment for Syphilis.—Peroxide of hydrogen, to which either resorcin or sulphocarbolate of zinc is added, snuffed up or brushed over the parts thrice daily, is very efficacious, with the occasional use of iodol snuff.

The Microbe of Syphilis Attacking the Spinal Cord and its Membranes.—The usual effects of the bacillus of syphilis upon the spinal cord or its membranes is to excite a chronic form of myelitus, with effusion of plastic lymph, a type of disease which is remarkable for its chronicity and terminates either in chorea, locomotor ataxia or paralysis.

Locomotor ataxia has increased with precisely the same ratio as the syphilitic germ. About 90 per cent of all cases can be traced to the presence of that microbe. That ataxia should be caused by this germ is due to the power which that germ possesses of deteriorating nutrition and thereby the power of resistance of this part of the central nervous system is weakened, and also to the peculiar form of fibroplastic inflammation which is set up.

When this kind of inflammation attacks the posterior zones of the spinal cord, it gives rise to fibrous effusion, a true sclerosis, which branches out in all directions, and literally destroys the function of the cord.

The bacillus of syphilis, when in the blood, often invades the spinal cord if it be weak. The presence of the germ in this structure very much resembles that of the brain. The germ is usually found in the dura mater; but the cord itself may be turned into a substance like fibrous tissue; the nerve-cells being obliterated; or it may be softened, just as we have in the meninges and arteries of the brain. Syphilitic nests, or gummy tumors, are found in the cord, resembling those in the liver. Locomotor ataxia is caused by the germ syphilitica, a sclerosis of the cord which causes a destruction of the nerve-cells. Why the germ should select the posterior columns of the cord is not quite clear. Still it is the cause of ataxia. Paraplegia is very frequently syphilitic in its origin, and all physicians are agreed that the large number and great increase

in all nervous diseases is due to syphilis. There is sometimes a difficulty in deciding whether the paralysis of the extremities be due to the cord or brain; that is, when all four extremities are involved; when the brain is effected, some cranial nerve is implicated. A sense of constriction around the body is a symptom of spinal disease, and this may be felt at all levels, from the axilla to the pelvis. This symptom is not seen in cerebral, but only in spinal affections.

The purely syphilitic tongue is characterized by its wrinkled and shriveled appearance; the whole organ is more or less denuded of epithelium; presents a mottled, whitish appearance, and often looks small and pointed. Generally we find a few shallow ulcers scattered about its dorsum, with intervening ridges of tissue; comparatively elevated, and more or less denuded of epithelium. There may be sessile, whitish, warty growths of irregular shape, with fringed and ragged edges; usually multiple. Warts along the edge and root of the tongue are very generally met with on males and are most excellent landmarks as to the presence of the bacillus in the blood. The adjoining mucous membrane of the lips and cheek presents numerous patches of faintly-white discoloration, alternating irregularly with tracts of healthy epithelium; the former appearance being due to shallow ulceration and subsequent cicatrization.

Ichthyosis of the tongue is frequently met with.

If a gummata is formed and breaks down, there will be no appreciable induration around the ulcer, and the rest of the tongue does not put on a glassy edema. The lymphatic glands under the gum will be slightly enlarged. They usually remain small, hard and permanently hypertrophied, but do not progress to suppuration. Syphilitic ulcers are painless; the breath never has the fetor which is present in cancer.

Tumors, consisting of millions of the bacilli of syphilis, are found on the tongue, in many cases, near the base, like hazel-nuts. If not treated, these soften, and, bursting, leave abscesses in the organ, and cicatrices. They are not infrequently mistaken for cancer, when in the ulcerative stage; but the chronic progress of the syphilitic ulceration, the odor of the breath, the non-implication of the lymphatic glands, and a microscopical examination of the discharge from the ulcer will clear up the diagnosis at once. Germ-nests, or gummy tumors, rapidly perforate the velum and hard palate.

Such cases should be treated vigorously by our valuable bac-

tericides; by the application of the dioxide of hydrogen thrice daily; saxifraga; periodate aurum; echinacea.

If large ulcerations fill the mouth, or pharynx, nitric acid should be fearlessly applied, followed with the dioxide of hydrogen as a wash. Adhesions of the uvula to the posterior esophagus opposite the larynx has been found.

MOUTH AND PHARYNX.—The mucous membrane of the mouth very early exhibits the presence of the syphilitic germ in the blood by its ptomain coloring the lining membrane of the oral cavity. Irritation, inflammation, ulceration, or, in other words, a partial death of the tissue from the presence of the germ; thus we find ulcers on the tonsils, edge of the tongue, gums, pharynx. The various parts are reduced to a mass of pulpy consistence. The bones of the hard palate often become exposed, and necrosed by such ulceration. The palate is commonly attacked, but the pharynx and larynx are very frequently involved in the destructive process, which is often deplorable. Sloughing of the throat is common where the patient has been maltreated.

LARYNX, BRONCHIAL TUBES, LUNGS.—The bacillus of syphilis has a strong affinity for the fine, delicate, highly organized mucous membrane and cartilages of the larynx. The slightest hoarseness or change in the voice is one of great danger, as the germ eats rapidly and is liable to produce necrosis of the cartilages, complete destruction of the epiglottis. The loss of voice so common among all syphilitic patients results from the germ gnawing the vocal cords; the aphonia of permanent their destruction, with probably either necrosis of the cartilages of the trachea and larynx.

The germ of syphilis evades the joints, but strikes for the spongy tissues of the head of the bones, together with the pink marrow.

The syphilitic germ in any portion of the throat, fauces, larynx, or trachea, is of grave importance. Ulceration of the epiglottis, with perforation, is by no means rare; ulceration of the mucous membrane of the vocal cords often has a fatal termination in spite of our best efforts. When such ulcers are got to heal, they often leave behind them a dangerous narrowing of the chink of the glottis. Venereal nests of the germ, or gummy tumors, form in the mucous membrane of the epiglottis, or vocal cords, soften and ulcerate. Edema of the glottis is often caused by the syphilitic germ, and the cartilages are often necrosed or carious. These cases are generally complicated

with the tubercular germ. It is not, however, difficult to diagnose those ulcers; the presence of the germ in the moist secretions from the ulcers and their appearance to the eye and laryngoscope are sufficient—copper or yellow colored, *"syphilis;"* cheesy mottled in *"tuberculosis."* Loss of voice and difficulty of breathing in most cases. There is a short cough, scanty expectoration; in other cases purulent, tinged with blood. Asphyxia may take place from the edema. Deglutition is sometimes very difficult, especially when the glottis is attacked. Syphilitic laryngitis is quite common, and unless tenderly guarded with great skill often fatal.

The trachea is often invaded by the germ; all parts are liable to ulceration and thickening of the submucous tissue, causing narrowing of the trachea along its circular muscular fibres, gives rise to what is termed *syphilitic asthma.*

Syphilitic bronchitis is quite common and is easily recognized by the usual landmarks. The microbe can be detected in the sputum without any tubercle being present. Nodules are often detected on the tubes loaded. The bronchi are often extensively ulcerated, and filled with pus. Whistling sounds are heard in inspiration, indicates clearly lesion of the trachea; percussion and auscultation revealing nothing abnormal in the lungs.

The exhibition of the same remedies as in bronchitis, by inhalation and otherwise, and push energetically the same remedies as in syphilis.

APHASIA.—The loss of the cerebral faculty of speech with cerebral syphilis is quite common. There are few medical men of any experience at all who have not seen cases of this causation of aphasia. The conjunction of right hemiplegia with aphasia is almost habit. Aphasia often exists alone, without any other form of paralysis, or it may occur with left hemiplegia, amaurosis, paraplegia, epilepsy, or glossoplegia. There is a motory centre for the lips and tongue in the third frontal convolution.

Aphasia syphilitica may come on slowly and insidiously; in other cases it may come on suddenly. The sudden form is the most common, slight or complete; *slight,* a mere forgetfulness of words; complete loss of speech. Sometimes a mere passing symptom; at others, it is permanent and quite unamenable to treatment. Complete and permanent aphasia may either be an early or late condition—as early as a few days after inoculation; as late as twenty years after initial lesion.

Under the use of modern remedies, aphasia must never be regarded as incurable, unless of many years' standing.

Many years ago we drew the attention of the medical profession to syphilitic infiltration of the lungs by the pathogenic microbe of syphilis. *That* the presence of this germ in the lungs occurs in one-third of all cases of what is termed phthisis pulmonalis; *that* the symptoms produced by the germ syphilitica are almost identical with that which the tubercle bacilli causes; the same emaciation, loss of hair, clubbing of the nails, thinness of the skin, night-sweats, hemoptysis, cough, expectoration, dullness on percussion, moist râles or rattles, large and small crepitation; ulcers or collections of pus in the lungs without a tubercle being present.

Generally speaking, the germ in the lungs is met with in a variety of forms; as interstitial infiltration, occupying any part of the lungs; gummy tumors are found in all parts of the lung, in the form of grayish or yellowish-white tumors the size of a pea or nut. These soften and leave cavities, just like tubercles do, but are not infrequently cured, and leave the cicaltrices so often seen in the lungs of persons who have died of syphilis.

Thousands upon thousands of cases of pulmonary consumption are treated annually by eminent physicians for tubercle in the lung, when *no* tubercle can be detected in any part. It is not tubercular consumption that is so greatly on the increase, as syphilitic destruction of lung structure.

In a very large number of cases, which have come under the author's care and observation, there was little to guide its recognition, save the occurrence of cicatrices in the pharynx, or depression on the skull or syphilitic sarocele. Such cases are most amenable to bactricides.

There cannot be the shadow of a doubt that in many cases of so-called pulmonary consumption, if a more careful examination were made, a very large portion, at least one-third, were solely due to the syphilitic germ; and this very fact should make us more hopeful and willing to try bactricide remedies on this terrible microbe which carries off one-tenth of the entire population of this country annually.

THE BACILLUS OF SYPHILIS IN THE LIVER.—The venereal microbe localizes in the liver in all ages from the cradle to the grave; and when it does so, it is found in the form of nodules. The aggregation of germs is usually either in small masses the size of a pin's head up to even the size of an orange, pre-

senting different appearances according to their age. All are surrounded by a capsule, which is merely the colored outer margin of the mass. When examined with the microscope, the germ can be seen and isolated with great ease, even though mixed up with other *débris*.

The most common symptoms of the presence of the syphilitic germ in the liver are the yellow or sallow complexion, the brown-coated tongue, pain in the right shoulder, fetid breath and a general feeling of great languor; but when the microbe invades or attacks the hepatic and common ducts there is jaundice. Syphilitic livers are seldom increased in size, for as the microbe grows in that gland atrophic changes take place; the absence of enlargement does not matter much in the recognition of the case, for whenever an ill-conditioned, anemic, dark, bilious, sallow-complexioned, cachetic-looking syphilitic-tainted individual complains of hepatic discomfort, with disordered biliary symptoms, for which no direct cause can be assigned, the case in all probability is one of microbial liver syphilis. Something may be detected in other parts of the body, as a node, a neurosis, an induration, some ache or pain, for it is impossible in this modern age of intermingling of races and sexes to escape syphilitic contamination. Hepatic stimulants, such as periodate aurum, chianthusi, chloride of ammonim should be persistently given in alternation with comp. saxifraga, peroxide of hydrogen and ozonized echinacea.

Among a people with weak livers we find a large amount of syphilitic hepatitis, accompanied with jaundice.

Mercurial drugging; malaria; the general use of alcoholic drinks, especially malt liquors; solar heat; neurasthenia, naturally cause our people to have weak, sluggish livers; and when they accidentally receive the syphilitic microbe into their blood, it almost simultaneously finds its way to the liver, and forms its usual microscopic nests.

The presence of the pathogenic venereal germ in the liver is productive of inflammation or a partial death. Many cases of unsuspected liver disease, jaundice, etc., are due to syphilis. In the liver, we find the occurrence of interstitial hepatitis; gummata; cicatrices. No doubt cirrhosis of the liver is due to syphilis. A syphilitic liver looks like the kidney of a young calf. This is due to the formation of new elements in the connective tissue of the organ and wasting of the liver cells. The edges of the liver become irregular and the capsule thickened. There are whitish patches seen in places, and on a section of it

being made, bands of white fibrous tissue extend across the organ in all directions, producing the puckering observed on the surface.

Germ-nests or gummy tumors of the liver are the most common. These cause induration and enlargement. In these cases the liver substance is filled with small round grains, distinct from one another; in these the germ is imbedded. The liver is very yellow; hard, almost cartilaginous.

If the patient happen to be tubercular, the presence of this germ modifies the pathological condition; tubercles, large and small; nodosities are now found in the liver, of a yellowish white color, dry and surrounded by a yellowish, callous, or tendinous tissue. These tumors are generally deep-seated and generally the size of a pea, but grow up to egg-size, when they begin to soften and their contents absorbed. Syphilitic cicatrices in the liver are common. Fatty degeneration is the outcome of liver syphilitica in the majority of cases; occasionally an amyloid case is met with.

The recognition of a syphilitic liver is based upon the following landmarks: A sensation of projection on the surface of the liver is experienced; ascites is present if degeneration has commenced; diarrhea is common; is serous and sometimes blackish in color; the urine is highly albuminous; extreme want of nutrition. The skin is discolored and looks extremely cachectic.

Syphilitic Carditis and Pericarditis.—In individuals, whose blood and tissues are swarming with the bacillus of syphilis, we often find germ-nests in the substance of the heart, the valves being usually intact. Such tumors in the cardia muscle are usually of the size of a pea or even larger. Aneurism of the ascending aorta is frequently caused by syphilis. Other pathologists have seen the aorta corroded and ulcerated in the bodies of those who have died with the disease. The cerebral arteries have been found completely obliterated in some cases. Oftentimes, the pericardium is found affected.

Lymphatic Glands.—The lymphatic glands of the entire body as well as the pink marrow of the bones, whose function is to raise or elevate the blood-corpuscles from the white to red, are early infiltrated, enlarged, with the microbe of syphilis, when that germ is present in the blood. The glands which first swell are the inguinal, posterior cervical, the mastoid, submaxillary and popliteal. Unless the patient be under such a course of treatment as we prescribe they may remain enlarged for years.

In very old chronic cases, the lymphatic glands are extensively affected; the thyroid is sometimes increased; the suprarenal capsules enlarged and degenerated in visceral syphilis; the spleen is affected just like the liver with gummata, in the form of rounded nodosities. The glands of the abdomen are often implicated in syphilis and become indurated; enlarged. The peculiar cachexia and odor of the germ is due, to a certain extent, to the disease of the blood-forming glands.

Bubo, inflammation of the lymphatic glands of the groin, is a common complication, if the gonorrhea is permitted to run along for several weeks, and is exceedingly liable to terminate in suppuration or abscess. The pus found in the glands contain the same, or identical, micro-organism which exists in the urethra; the pus, the resulting ulcer which follows, must be treated with germicides.

The treatment in all cases must consist in rest; hot fomentation or poultices; large doses of anodynes to relieve pain when suppuration is inevitable; there are several modes of procedure which can be adopted with success, but in all of them a free outlet must be given to pus.

WRECKAGE OF THE MALE SEXUAL ORGANS BY THE GERMS OF GONORRHEA AND SYPHILIS.—Disease, degeneration, and death of the sexual organs of both sexes are marvelously on the increase, owing chiefly to the alarming, widespread dissemination of both germs of gonorrhea and syphilis, together with masturbation and perversion of the sexual act. These and other causes do immense damage, and are the principal causes of sexual incompetency and structural change. Morbid states of the testicle, induced by these conditions, are productive of cystic degeneration, atrophy, variocele and hydrocele. Cystic degeneration and impotency go hand in hand. Adenoma follows next in frequency. The victims of sexual impotency and wreckage of vital parts of the generative organs are our drained-out youth and middle-aged libertines.

THE GUMMATA.—The gummata is a lesion peculiar to syphilis; no other microbial disease has anything at all like it. The bacillus of syphilis has, in all its different modes, the greatest tendency and affinity to form in nests or groups. When the vital forces are literally paralyzed, a complete wreck either by the bacillus, or most erroneous treatment, the germ will congregate in the subcutaneous tissue in strictly circumscribed, well-rounded, painless, indolent sacs, or nodules; at first scarcely larger than a pea, in a sac, with an unalterable cov-

ering and movable. If the case is not being treated correctly, the bacilli grow by millions till they assume the dimensions of an egg, or even of a larger size. Sooner or later, if the treatment is not correct, they attach themselves to the skin, which becomes of a livid purple hue, and the microbes break through to the surface, and discharge a gummy substance, full of germs. Ulcers result of every kind; round, oval in character; with edges clean cut and floor germ-laden, purulent, and extending to the subcutaneous tissue, cartilage and bone. Thin and unyielding bands or bridges of undermined skin often extend and give way before this destructive process of germ growth. Ulceration is the alternate result of all gummatous conditions, and when this takes place, it may even exhibit the appearance of a simple ulcer, save in the thinned, purplish, pigmented appearance of the outlying integument. The scars are typical bleaching from the centre, often attached to the periosteum, or bone, though this is rare. Considering the activity of the bacilli in these gumma and the depth of the ulcers, there is comparatively little waste of structure. About the neck the cicatrices may be linear in shape and slightly puckered; whereas on the lower extremities they are circular or oval.

The number of gummata upon a badly-smitten syphilitic microbal patient varies from one to half a dozen, or a large number. They may appear on any part of the body. Same treatment as syphilis generally. Locally, thrice daily, apply an ointment of oil of thuja; strength about twenty per cent, or simply add the oil to ozone ointment and apply as frequent.

Condylomata, or *warts,* due to the microbe of gonorrhea, being permitted to lie at rest upon the foreskin or glans, which acts as an irritant, and excites an evolution of the germ.

They are generally situated either along the corona glandis, or on the edge of the prepuce in males, and any part of the vaginal walls in women. Great cleanliness; bathing the parts thrice daily with Castile soap and warm water, then applying the oil of thuja is most effectual. The same remedy should be administered internally. It most effectually kills the germ in the blood and causes it to wilt, wither and disappear; at the same time administer antisyphilitic remedies.

Granulating Syphilis.—Excrescences, or warts, are made up of two microbes; that of syphilis, and of warts; they are most commonly met with around the carona glandis, on the edge of the prepuce; in the female they form the granulating excrescences of the urethra; warts on the walls of the vagina and neck of the uterus.

In this dual condition of the two mixed germs, a union of the microbes of warts and syphilis, it is extremely active; highly contagious.

The author has been remarkably successful in the thorough eradication and extermination of the germ in this form by the use of our newly-prepared oil of thuja, both locally and internally, and by specially-prepared remedies.

Plain, simple vegetations, or warts, it must be remembered, are met with on the genital organs on persons who never had any syphilitic germ, and they, benig of a germinal nature, are essentially contagious.

STOMACH AND BOWELS.—Infiltration of the walls of the stomach, near the pyloric region, is often due to the presence of the syphilitic microbe and the evolution from the gastric secretion of the carcinæ ventriculi.

Syphilitic ulceration of the large intestine often gives rise to persistent diarrhea. In a very large number of cases of chronic diarrhea, seen by the author, there has been a syphilitic history, and the microbe was isolated from the dejecta. The rectum also suffers. They yield readily to our specific treatment, with small doses of lactic acid.

Stricture of the rectum from the same cause is extremely common in women. These masses of germ-laden lymph are met with from one to two inches above the anus. There we find a hard ring, scarcely admitting the finger, of thickened mucous membrane, with transformed cellular tissue. Below the stricture the mucous membrane is turgid and covered over with pus; above it, eroded. This affection is accompanied with obstinate constipation, varied with diarrhea, and causes wasting and emaciation. Dilatation with bougies, together with our invaluable remedies, never fail to give an excellent cure.

THE ANUS.—If the anus be weakened either by dysentery or by piles, or by irritating drugs, and the individual has the pathogenic microbe in his blood it may appear here, ether alone or simultaneously with its appearance on the skin or mucous membrane of the mouth; generally it is first observed at the junction of the cutaneous surface with the mucous membrane in the form of nests, which are termed mucous tubercles. These are really warty growths or excrescences, but in them can be found the microbe of warts and the bacillus of syphilis. The presence of those two germs gives rise to a watery discharge, which keeps constantly exuding from them. They are rarely

single; usually several, and when irritated or excoriated give rise to considerable pain and discharge. The structure of those tubercles, condylomata, or warts, is made up entirely of the two germs and young connective tissue.

Treatment most successful by internal bactericides, and locally by suppositories of oil of thuja.

SYPHILIS IN MUSCLE.—The microbe, we have seen, invades muscular structure, and none more frequent than the sphincter ani; even more than the biceps. It occurs very frequently, and manifests itself by severe pain and tenesmus during and after defecation. In severe cases the pain may last for hours. It occurs much more frequently in women than in men.

Gummy tumors sometimes occur in muscles, and often destroy a portion of the muscular tissue, thus causing shortening and deformity of the limb. It is chiefly in the muscles of the forearm that these germ-nests are formed. They may occur on any muscle weakened by a strain or blow.

BRIGUT'S DISEASE—SYPHILIS IN THE KIDNEY.—We have found that the germ frequently invades the kidneys, blocks up its tubules; gives rise to effusion of lymph and interstitial degeneration.

From careful collection of cases extending over a very long period, it appears that out of every three cases of Bright's disease, one is caused by the syphilitic germ. Next to the brain and liver the kidneys, of all internal, are most frequently attacked by syphilis. Post-mortem appearances confirm this.

Chronic interstitial nephritis is caused by syphilis, as well as by alcohol. Nests, or gummata, have been detected in the cortical substance, and the toxin of the germ stains the kidney all over with its peculiar copper color.

The course of syphilitic Bright's disease is slow, and most commonly fatal, although in numerous cases a cure may take place under ordinary antibacillary remedies.

MALPOSITION OF THE TESTES AND THEIR INFILTRATION WITH SYPHILITIC GERM.—The testis may be arrested in any part of its passage from the lumbar region to the scrotum.

For example, they may never leave this region, but may remain permanently in close proximity to the kidney. They may pass as far as the internal abdominal ring, but fail to enter the inguinal canal. They may pass into the inguinal canal, but fail to traverse the internal ring. It may pass through the ring, but fail to descend into the scrotum.

The conditions which produce retention are very numerous;

such as intrauterine peritonitis, which produces adhesions between the folds of the peritoneum in the neighborhood of the gland; another cause is an unusually small external ring, and a want of power in the gubernaculum testes brings about an incomplete descent. Shortness of the vas deferens, and an unusually large epididymis, are also undoubtedly causes of retention.

A retained or undescended testis is prone to suffer either a withering, or blight, or become undeveloped, and the patient is sterile, but this is not always the case, for we find in a large number of the cases the glands normal, full size, active, and secrete semen freely. The testes are much less likely to become undeveloped or blighted, if retained in the abdomen, than they are when arrested by some mechanical condition in their descent, and subjected to pressure by the surrounding muscles. When the testes are either blighted, withered, atrophied, partially or completely undescended, or otherwise, from a gonorrhea, or a blow, sterility is inevitable, and associated with loss of virile power, and change in the aspect of the individual. In all cases of undescended testes, the corresponding half of the scrotum, as well as the tunica vaginalis, is imperfectly developed.

Instead of the above-described conditions, a retained testis may pass into the peritoneum, or through the femoral ring into the femoral canal, and other unnatural positions.

A retained or misplaced testis usually gives rise to heaps of trouble, such as constantly to irritation; to orchitis; from very slight muscular exertion. Even in the abdomen it may be attacked by the micrococci of gonorrhea or mumps.

Besides in its abnormal position constantly suffering irritation, weak, imperfectly developed, it is extremely liable to become the seat of either the bacillus of cancer or syphilis.

It is also extremely liable to give rise to inguinal hernia, from imperfect closure of the funicular portion of the tunica vaginalis.

Syphilitic infiltration of the testicles is of frequent occurrence, and often followed by absence of spermatozoa in the semen. The germ, effused with lymph, forms an interstitial deposit in the testes, which is characterized by lymph nodules and bands, radiating from the tunica albuginea and insinuating themselves between the semeniferous tubes, thus compressing and separating them. The tubules become atrophied; the testicle, hard at first, degenerates and wastes. Almost

every case of chronic orchitis is syphilitic. It is not at all uncommon in these cases to find tumors the size of a walnut deposited in the body of the testicle, which, when removed and examined, consist almost exclusively of a mass of pathogenic bacilli.

There need be no difficulty in its recognition. Tubercle goes for the epididymis; the germ syphilitica for the testes proper. Tubercle rapidly softens, and forms abscesses; syphilis rarely does that. Concer never can be mistaken for it; the pain and vascularity are sufficient guides. There is rarely any pain at the onset of syphilitic sarcocele; nor much tenderness on pressure, as the ptomain of syphilis poisons and blunts the sentient nerves. We remark a pear-shaped tumor, either smooth on the surface or with irregularity, little hydrocele in general, and both testes usually become affected. In every case examined by the author, there is perfect sterility as a result of this condition of the testes, and this in some cases has supervened very early. As a rule it is slow, and affords a most ample opportunity for treatment, to which it is most amenable when our remedies are properly used. Treatment should be carried on for several months.

Still to the Testes Do the Germs Migrate.—Let the testes be once weakened by either a gonorrhea or by masturbation, by perversion of the sexual act, or by having intercourse with impure or common women, any disease germ which may be in the body will likely migrate there. For example, if a tubercular individual happens to, by any chance, let the bacillus of syphilis into his blood, the two germs may migrate to the testes, and each give rise to its peculiar characteristic symptoms.

In such cases both testes are usually affected, and the peculiarity of this is this: that the syphilitic microbe goes for the testicle proper, while the tubercular bacilli go for the epididymis.

The bacillus of tubercle in the epididymis is usually effused in great abundance; becomes hard and knotty; and as it increases in size, forms a semicircle, or crescentic mass behind the testes; while the testicle proper, being invaded with syphilitic germ, wilts; withers; atrophies.

Unless vital force is rapidly restored, the tubercular germ goes for the tunica vaginalis, the result of which is signalized by the formation of hydrocele.

If this state progresses, the germ-laden epididymis may sup-

purate; adhesions may form and pus be evacuated by nature. The syphilitic germ in the testicle proper either completely withers or enlarges and becomes nodulated, and it may suppurate, and a protrusion of the testicular substance ensues. Generally the spermatic cord is thickened, and the vas deferens hard and swollen. Both germs may migrate, either to the vesiculæ seminales, or to the prostate, or other parts of the genitourinary tract, but in and among all our patients our treatment has been such that we never have any serious extension of the germ; never any suppuration or complications.

Our treatment differs from all others; it is constructive; while at the same time it soothes and eradicates the disease. We control the irritation, the inflammatory condition, before the germs have time to cause degeneration of tissue. We guard those important organs.

The tubercular bacillus selects the epididymis; whereas the venereal germ selects the testes proper. In the testicle, this holy ground, the germ thrives well; excites interstitial orchitis, and gives rise to a painless swelling of the whole gland, which becomes firm, heavy and of an oval shape, flattened from side to side; smooth on the surface and not tender. The epididymis is not perceptibly affected, spermatic cord swollen, often slightly thickened. The tunica vaginalis usually contains some effused serum.

On making a section of such a testicle, the tunica albuginea is usually found to be thickened; fibrous masses can be seen all through the substance of the testicle, forming loops from which the venereal bacillus can be isolated. The fibrous tissue, with the germ, necessarily diminishes the proper structure of the testes, brings on atrophy with impotency.

Under our treatment seldom do we have such complications arise.

THE VENEREAL BACILLUS IN THE TESTES.—Men who, in their early days, have either been guilty of masturbation, or other indiscretion, or later in life sexual excesses, are very apt to have weakened testicles. If, by any chance, they should be so unfortunate as to have the syphihtic microbe enter their blood, it is very apt to migrate into the devitalized testes and excite plastic inflammation: one or both glands may be invaded. When the true syphilitic germ enters the testes, it is altogether different from the orchitis produced by the gonococcus. With the syphilitic microbe there is general enlargement from effusion of lymph, and germ growth, which becomes organized

into hardened masses, interspersed with fibrous tissue. The syphilitic microbe goes for the entire gland. The enlargement of it necessarily causes a stretching of the serous covering, which excites effusion of serum into the tunica vaginalis. Usually the microbe avoids the epididymis, so, except in some isolated cases, it and the spermatic cord are also free. A true germ-loaded syphilitic testis is painless, and gives no trouble except by its size. It is often as large as a hen's egg; more rarely the size of a goose-egg; smooth, heavy, oval, not tender, but with a marked absence of testicular sensation, when subjected to pressure and firm to the touch. In a chronic case the secreting granules are entirely destroyed by the germ, and the presence of fibrous tissue obliterates the last vestige of manhood. Later on a species of atrophy sets in, with cirrhosis.

Such cases, allured into the net of some notorious charlatan, are forever afflicted with incurable impotency; whereas, if they are treated on correct principles are mostly all cured.

Orchitis and epididymitis are very common complications of gonorrhea, occurring generally about the third or fourth week, if the disease is permitted to run along so long. They are caused by a migration of the gonococcus from the prostatic urethra to the ejaculatory ducts, and vas deferens, down to the testicle; when this migration takes place the discharge in the urethra diminishes or disappears; when their inhibitory action ceases, the discharge returns.

Morbid States of the Seminal Vesicles.—The vesiculæ seminales are two membranous receptacles, situated one on each side, beneath the base of the bladder, between it and the rectum. Their length is usually about two inches, and their greatest breadth from four to six lines; but they vary both in size and shape in different individuals. Their posterior extremities are separated widely from each other; but anteriorly they converge so as to approach the two vas deferentia, which run forward to the prostate between them. With the vas deferentia thus interposed they occupy the two diverging sides of the triangular portion of the base of the bladder, which lies upon the rectum. The seminal vesicles themselves rest upon the rectum, but are separated from it by a layer of the recto-vesical fascia, which attaches them to the base of the bladder. The posterior ends lie beneath the openings of the ureters.

The common seminal, or ejaculatory ducts, two in number, are formed on each side by the junction of the narrowed extremities of the corresponding vas deferens and vesicula sem-

inalis, close to the base of the prostate. From this point they pass, side by side, through the prostate, between its middle and lateral lobes. After a course of nearly an inch, they end in the floor of the prostatic portion of the urethra by two valve-like slits placed in the verumontanum, one on each prominent margin of the opening of the prostatic sinus.

Inflammation of the seminal vesicles is usually the result of some irritation in the urethra, as gonorrhea, masturbation, perversion of the sexual act. In these the gonococcus is present, so that if the treatment be carried out by some one inexperienced or devoid of a proper knowledge of the micro-organism, it will migrate backwards, along the common ejaculatory duct to its termination in the vesicle, thence to the testicle.

Besides these causes, the passage of a bougie, the presence of a stricture, coitus with a leukorrheal woman, or by the elongated front of bicycle saddle. When inflammation takes place here, there is swelling at the base of the bladder, due to effusion into the perivesicular connective tissue. This gives rise to great irritability of the bladder; ether pain or uneasiness in the perineum; painful defecation; frequent and painful micturition, or retention; nocturnal emissions; persistent moisture, or weeping penis, with priapism.

EXTRAVASATION OF URINE.—May proceed from the bladder, or from the urethra.

The bladder may give way from ulceration, or lacerated by violence.

When the urethra gives way it is generally from retention as a result of stricture.

It is very easily recognized, as the affected individual feels that something has given way; if the bladder, the rupture is usually in front of the posterior layer of the triangular ligament. The immediate feeling is one of relief. Soon, however, the lower part of the abdomen and scrotum becomes infiltrated with the germ-laden urine; the evolution of the micrococcus urea is so prodigious that the swelling of the parts is immense; rapid; sloughs form; great prostration from the germs entering the blood causing a smothering sensation; brown-coated tongue; fever; muttering delirium.

The treatment must be prompt and vigorous. Free incisions should be made wherever the tissues are infiltrated, so as to give vent to the extravasated urine. Peroxide of hydrogen should be sprayed around the parts; poultices of charcoal, yeast

and wild indigo applied; alternated with a solution of boroglycerid. In all cases a catheter should be passed into the bladder. The diet should be liberal, including beef tea, eggs, wine, brandy. Our medical treatment of these cases has been such that in a most extensive practice of fifty years we have never lost a case.

URINARY ABSCESS.—This is generally the result of stricture, a drop of urine or pus remaining behind it, exciting irritation, inflammation and the formation of abscess. Such abscesses may occur at any part of the urethra, but are most common in the bulbous or membranous portion of the canal.

The usual symptoms of abscess are present: pain, swelling, induration, rigors, pain changing to a throbbing; sense of fluctuation.

As soon as matter forms the abscess should be freely opened. As there is usually a stricture, it should be dilated, and a No. 12 catheter inserted into the bladder and retained there twenty-four days, during which time the abscess should be well stimulated and healed.

URINARY FISTULA.—A fistula, a tube communicating with a cavity, lined by a false membrane, the result of an organic stricture, or urinary abscess. The fistulous tract between the urethra and skin, through which the urine dribbles, is the seat of microbes lined with a false membrane, which is often cartilaginous.

As we have had great success in the management of these cases, patients flocking to us from all parts of the globe, we will briefly give our method of treatment for the benefit of the profession. The first thing is to dilate the stricture with our dilator, and once dilated the fistulous tract should be thoroughly dissected out; then a No. 12 catheter inserted into the bladder, and the fistulous opening carefully stitched up with lead sutures. Boroglycerid ointment should be kept constantly applied until it is healed up.

HEADACHE.—The clinical study of the operations of the pathogenic microbe of syphilis on the nervous system has for quite a number of years attracted attention. It is found that a great deal of the headache which is so very prevalent in every family is due to the microbe making an inroad into the brain, and this discovery of the bacillus has thrown a flood of light on many obscure points in the pathology of the disease. Syphilitic headache is markedly internal and deep in character, aggravated by noise, light and motion. It is ter-

ribly severe, especially when it is nocturnal, and most tenacious. The pain often causes delirium. It may last for many years before its cause is suspected. It is often an early symptom of the presence of the germ; too much overlooked. There may be associated with it vertigo, failure of the mental faculties, with impaired vision, or buzzing in the ears. Low spirits and impotence are generally associated with it. There may also exist with it paresis of the cranial nerves, with slight ptosis; strabismus; mydriasis, or facial or lingual parèsis. In some rare cases headache has been followed by blindness and coma.

SYPHILITIC FEVER.—Febrile exacerbations occur off and on at all periods, when the syphilitic microbe sporulates. Fever occurs in whatever location the germ is domiciled, skin, mucous membrane, muscles, brain, bone, eye, liver, lungs, intestines. Syphilitic fever usually commences by headache, or sensation of cold; shivering. The pulse more frequent; general malaise; disorders of the digestive organs. The reoccurrence of chilliness, with sweats, are frequent. The fever assumes a variety of forms.

Among women the symptoms are often very high, especially the pulse and temperature, accompanied with cerebral. There is usually great debility; inability to read, work or make an intellectual effort.

GERM NESTS, INFECTION.—The status of vital force regulates the sporulation of the bacilli; the want of vitality in any special part or organ constitutes a point of paramount importance in the evolution and growth of a microbe which is doing so much to embitter the existence of our race. It has only been of late years that the localizing of the germ in the brain, liver, kidneys, or nervous system has been understood. It is only in states of extreme prostration that we see the great lesions produced by the germ.

No rules can be laid down as to when this microbe will form gummy tumors, or when it will invade the testes, or some other vital part.

PARALYSIS.—The bacillus of syphilis often infiltrates the brain and spinal cord, giving rise to organic changes and paralytic seizures, as aphasia, hemiplegia, paraplegia, etc.; in such cases the microbe infiltrates the convexity of the brain with the diagnostic yellow ptomain exudation.

Paralysis of the insane is caused by this germ; even general paralysis occurs in syphilitic individuals. Syphilitic disease

of the brain produces all forms of paralysis. In general paralysis we notice intellectual and motor disturbances first of all, and with those, in many instances, vertigo, epilepsy, maniacal attacks. This holds true in cerebral syphilis.

There are certain features in ordinary general paralysis of the insane which make it distinguishable usually from cerebral syphilis. The patients who suffer from it are remarkable for the perfect satisfaction which they feel with their own position. These are the insane who, in asylums, are wont to consider themselves as the illustrious characters of some sort. Such a condition of mind is rare among the syphilitic insane.

Trembling of the tongue and lips, so common in general paralysis, is wanting in cerebral syphilis. Paralysis with or want of co-ordination of movements is essentially syphilitic. In general paralysis the gray matter of the convolutions is far more extensively affected than it is in cerebral syphilis, where the predominating feature is induration of the convolutions. General paralysis of the insane is always fatal; whilst the syphilitic lesion, which resembles it, is curable under proper treatment. If cerebral syphilis is not treated properly hopeless paralysis will occur. This microbial disease never remains stationary; progressively worse, if not properly treated; invariably disappears under bactericidal remedies.

Hemiplegia is one of the most common forms of syphilitic paralysis. Headache is the precursor of an attack, with nocturnal aggravations. Syphilitic hemiplegia resembles apoplexy in its mode of seizure.

Epilepsy.—*Syphilitic epilepsy* is now a well-recognized form of epileptic seizure. It occurs generally in males between the ages of thirty and forty; nine cases out of ten occurring in men of that age for the first time. It is one of the most common symptoms of cerebral syphilis. This is no doubt due to the germ affecting the cortical substance of the brain, or the gray matter of the convolutions; the meninges being first attacked in many cases. The epileptic fit in syphilitic cases is not to be distinguished from that of essential epilepsy merely by the aspect, neither in the phenomena; but by a careful analysis of all the symptoms. In some cases it is the first and only symptom of syphilis ever present. The occurrence of such seizures is often preceded by pallor, emaciation, languor and nocturnal headache.

Once an epileptic seizure takes place, it is sure to be followed by another after a long interval of time, but they come on more

frequently as the microbe grows, the interval between each growing less and less. Generally they are preceded by headache; usually in the temporal region. They may or may not be preceded by an *aura,* or warning, or this may not occur. The *aura* may feel like a waft of wind or a flash of light, or some strange sensation in the upper or lower extremities. The fit at first is very light, being purely convulsive; but by and by there is loss of consciousness, power of voluntary motion, a fit or spasm of long or short duration. After a time these seizures become of great intensity and violence and paralysis of the upper and lower extremities or dementia take place.

Patients with syphilitic epilepsy become in a short time quite unfit for business; indifferent; morose; taciturn. The memory gives way first; becomes greatly enfeebled, and he is very forgetful. His moral nature, emotions, desires, affections, passions, become impaired, and he becomes a mere wreck of his former self.

A correct diagnosis of these fits, *syphilitic epileptic,* was extremely difficult before the discovery of the microbe. The presence of that in the blood is the initial step to a positive diagnosis; the consecutive paralysis after those nerve storms. The spasms are often limited to one side of the face, an arm or a leg. Patients often suffer pain in a part of the body. Partial or reflex fits are not seen in purely nervous epilepsy; whereas they are common in syphilis. Partial epilepsy, as we often have in syphilis, shows alteration in the gray matter at the level of the cortical motory zone. As a rule the fits of epilepsy are mostly nocturnal. One peculiar feature of the syphilitic fits is that in the intervals between the fits the patient is truly a sick man; this is not the case in the other form. Headache, vertigo, or some form of paresis, occurs in many cases, and the fact that it occurs in an adult, and not in a child, is at least suggestive of syphilis; but none of these but the microscopical examination are pathognomonic. Indeed the only other landmark is the result of our specific treatment. If there are any diagnostic marks, as a gumma in any part of the body, it will be of great value. If, again, we can find no evident cause for the fits, such as alcoholism, uremia, tubercle, lead-poisoning, tumors in the brain, it would be well to try our anti-syphilitic treatment.

We might again repeat that all cases of epilepsy coming on in adults who have had syphilis should at once be placed under an energetic treatment for syphilis.

Inherited Syphilis.—Most reliable statistics exhibit in 1,000 cases the following characteristics, with their proportions: Papules of the skin or mucous membranes, 74 per cent; rhagades of the lips and anus, 70 per cent; rhinitis, 58 per cent; ulcers of the hard palate, 52 per cent; macules, 45 per cent; chronic lymphadenitis, 29 per cent; ulcers of the tongue, 27 per cent; pemphigus, 25 per cent; onychia and paronychia, 23 per cent; excoriations, 20 per cent; laryngitis, 17 per cent; pseudoparalysis of the extremeties, 7 per cent; ulcers of the skin, 4 per cent; gingivitis ulcerosa, 4 per cent. Most of the children were extraordinarily thin and atrophic. The disease makes its appearance in the first month in 64 per cent of the cases, and in the second month in 22 per cent; most often in the third week, then in the second and fourth week. The earliest symptoms of hereditary syphilis are rhinitis and pemphigus.

Syphilis is a germ full of variety and irregularity, depending greatly upon the soil in which it is planted; in the young the tissues are succulent, microbe very active, whereas in the matured it is sluggish.

The heredity syphilis in the young best and most successfully managed by administering periodate aurum, in one grain doses every two or three hours.

Infantile Syphilis.—This term is generally limited to an infant born from parents who have the syphilitic microbe in their blood and tissues. For example, if the father's blood and tissues are saturated with the germ, he may transmit the microbe to the wife of his bosom; she to the child of his love. This may occur at the period of conception, or subsequently, the mother herself may, if she have the germ in her blood, impart it to husband and child. There are many ways aside from an impure coitus in which a woman may be contaminated with this microbe, as in the practice of kissing; in the extraction of teeth; the use of drinking vessels; clothing, and close contact. The mother may in this manner infect the child through her own blood.

When the father engrafts the syphilitic bacillus upon his offspring, and the mother's vital force be strong, there is an inherent element in a healthy uterus to repel the presence of a germ-laden fetus in its cavity; so she very frequently miscarries about the fourth month. Repeated miscarriages are most suggestive of the presence of the venereal bacillus. When both parents are affected the mother is more likely to complete

her pregnancy, and give birth to a child; likely born alive, but distorted in its very form and features; probably thin and shriveled, with a prematurely old expression; a hoarse voice: a snuffling breathing; a discharge from the nostrils, and an eruption about the anus and genital, or it may appear on skin in the form of copper-colored vesicles.

Or, again, the child may be born apparently healthy, and the germ latent; but assume activity within six weeks after birth.

Or it may be later in life before the germ exhibits itself, either in malnutrition; irregularities of the teeth; a non-union of the epiphyses of bone and various other malformations, and bronzing of the skin.

Our treatment of such cases has been most remarkably successful with our new remedies and iodine baths. The child must be artificially fed, so that it may neither reinfect the mother, nor the latter the child.

The common manifestations of the microbe of syphilis in infants are of a superficial character; nasal obstruction with discharge; cutaneous eruptions; mucous tubercles, and the like. It sometimes happens that the lungs, the liver and the brain are implicated; may be affected by the germ; other internal organs are also often affected by the same. In these cases the child gradually withers, wastes, or else it is attacked by convulsions and dies after a sort illness.

When such cases come under our observation, we push a plan of treatment which has been most successful in eradicating the germ from its blood, and at the same time place both parents on our specific course, in doses according to the state of their health, and the special symptoms that may be present.

It is of the utmost importance that in medical teaching a more thorough course should be given to students; a wider observation and experience regarding a germ which pervades the blood of nearly every family in our land, so as to recognize all the characters and migrations of this great pathogenic microbe —so that they may be better able to root it out by the recognition of its most obscure symptoms, and a higher graded treatment.

Many honorable men, and women, too, are often unaware that the microbe is in their blood; they may be ignorant of the fact, even how they got it. In such cases the greatest care should be exercised to elicit all the information possible without exciting suspicion or creating social discord.

A physician is often asked how soon it is safe for a person

who has had the pathogenic microbe in his blood to contract marriage. We would most emphatically answer, not until he or she has taken a six months' course of specific treatment; for it is doubtful if ever the germ can be annihilated and completely eradicated by any other remedies than by those laid down in this article.

An individual who once has had the disease and been treated and bamboozled by ignorant charlatans and seems apparently well, *still has the bacillus lurking in his* blood, ready, nay, keenly alive to sprout into active existence the very moment his vital powers are depressed, or the slightest ill health or destitute circumstances prevail. This may occur after the lapse of many years. The germ may lie dormant one entire life, provided a high standard of health be maintained. It is therefore impossible to lay down any rule when a patient is safe; free from the germ.

The question often suggests itself, Who has not the venereal bacillus in his blood? Echo answers, Who? No man or woman is safe who even drinks out of the same vessel, even the sacramental cup, which has been known to infect or inoculate many, one by one, who drank from the sacred vessel.

SYPHILITIC GERM CAUSES TUBERCLE; SYPHILIS ENGENDERS TUBERCULOSIS.—The prodigious power of the bacillus of syphilis upon the nervous system so weakens, so depresses it that it creates in the individual lowered vitality, depressed vital force, a neurasthenia, which is termed tuberculosis, because in that state the elementary molecules of the blood are so degraded, changed, altered into other living matter which has independent powers of existence, a germ named the tubercular bacillus.

When these two microbes exist in the blood, the tubercular germ changes many of the characteristics of the syphilitic; for example, it causes the eruption to occur in round groups; serpiginous; form circles, or segment of circles. They may be moist, with secretions; dry; scaly; scabby. They may occur over the entire body, but their common seat is on the face, forehead, around the nose, or on the lips, upper and lower extremities. At first their color is red, but subsequently coppery. Although they are very indolent, rarely ulcerate, they frequently leave ugly-looking marks on the skin. Among the class of skin affections induced by the two germs, tubercle and syphilis, is a peculiar form of tuberculo-ulcerative syphilitic-ulcerative affections, which commence with a crop of red, hard,

smooth, indolent tubercles, which soften after a time and ulcerate, the ulcer being covered by a thick uneven crust, blackish green in color. The ulcer tends to extend its surface rather in depth, and leaves dead white scars with ridges and depressions. In some cases the ulcer extends deeply, and destroys the nose and adjacent parts very rapidly. There is some resemblance to cancer and lupus; but the microscope reveals that it is due to the syphilitic germ intermingled with the tubercular germ. The author has over and over again seen such cases cured readily by the administration of his specific remedies.

SYPHILITIC PTOMAIN.—In numerous cultures with the pathogenic microbe the venereal bacillus, the important discovery has been made that it is the *toxin* of the germ, that is, its chemical excreta, which gives rise to all the principal symptoms of the disease—that it is the *toxin* which produces iritis, and that terrible pain in the brain in phrenal syphilis; that it is the *toxin* which gives rise to the nocturnal pain in the bones when the electrical forces of the atmosphere are lowered; that it is *toxin* which gives to the cutaneous eruption and the ulcers in mouth that peculiar copper color, and it is the *toxin* which blunts the sensibility of sentient nerves, and produces profound intoxication of the cineritious pulp.

The extreme contagiousness of syphilis renders it very doubtful whether it is not very largely disseminated among all classes of society.

There are in our midst a very large number of syphilitic patients the germs from whose bodies are everywhere present, in workshops, street cars, linen, clothes, furniture, in carpets and floors, even in the dust of our streets.

GONORRHEAL OPHTHALMIA.—This is caused by the gonococcus being brought in direct contact with the conjunctiva. This is usually done either by the fingers after dressing the affected penis, or by a towel or napkin used on the parts. This micro-organism, once on the mucous membrane of the eye, has a very rapid growth; excites great local irritation. The microbic discharge is profuse, thick, abundant, alongside the gonococcus. There is generally some chemosis of the ocular conjunctiva, and the disease may spread to both eyes by the germ being carried there. To save the eye, it is always necessary to resort to most active measures of treatment, as the cornea may slough within a few hours, unless the microbe be killed. The affected membrane must be touched all over with a mixture of

dioxide of hydrogen and glycerin. This to be followed with either lotions of resorcin or creolin, with belladonna; hot fomentation frequently renewed. Large doses of opium to relieve pain, and blunt the sensorium. Tonics, especially quinine; stimulation to nape of neck.

SYPHILIS ON THE UTERUS AND OVARIES.—The effects of the syphilitic germ upon the uterus is damaging in the extreme; it causes amenorrhea, which is very persistent. It blights the ovaries; causes sterility. If impregnation be possible, it causes abortion at the fourth month; or dead and premature births. I saw a case very recently of a woman who was syphilitic, aborted seven times in succession; another who had nine children at different periods, all syphilitic.

The analogue of the testicle, the ovary, often suffers greatly from the germ; giving rise to syphilitic ovaritis, which is the cause of sterility.

The bacillus attacking the neck of the uterus produces those never-ending discharges which are so common and obstinate in women who have once been infected with the germ, and which so often infect men with the malady.

OVARIES, DISEASE GERMS.—When the bacillus of tubercle, syphilis, and cancer exist in the blood, and the ovaries happen to be weakened by any cause, these microbes find their abode in those glands, and give rise to various ptahological changes, in all of which sterility exists.

These three leading microbes in the ovary are usually attended with anemia, chlorosis, and should be treated on general principles.

The most common of all diseases in the production of organic changes in the ovary is the gonococcus. This germ is the most potent factor in producing sterility; withers; whittles down the evolving faculty of the testes as well as the ovaries.

Injections of creolin have a most remarkable action in causing a complete destruction of all the spores of the gonococcus, at the same time most vivifying to the ovaries.

STRICTURE OF THE URETHRA may be defined to be a narrowing of the canal, due either to *congestion,* as in inflammation; a *spasmodic* contraction of some of the circular muscular fibres, which surround the membranous portion of the urethra; and organic stricture, which is due to effusion of lymph, generally upon the lower aspect of the canal, more rarely circular, which may become organized and fibrous, or even cartilaginous.

Strictures are generally the result either of acute or chronic inflammation of the urethra, or of injuries, mechanical violence, or by the use of strong injections, masturbations, etc., all irritations which would cause effusion of lymph into its lining membrane.

Inflammatory, congestive, spasmodic strictures, so called, are simply due to swelling and contraction of the muscular fibres which form part of the walls of the canal.

In the management of such cases we must look at the cause from whence they arise; the nature of the irritation; excesses, drink, etc.

Rest in bed; warmth; an active saline purge; sedatives to relieve pain. In spasmodic cases, hot fomentations of conium and belladonna, with a cocain suppository, are most effectual in affording relief; subsequently the case should be treated on general principles, according to cause.

Organic stricture is always invariably the result of inflammation; the plastic lymph which is thrown out and forms the stricture is effused from the submucous areolar tissue, or it may be the effects of an ulcer or chancre in the urethra, or near its orifice.

The character of stricture varies much; sometimes and most generally the effused lymph is on the lower aspect of the canal; in other cases round the entire urethra, or situated on one side; sometimes it is rough, fibrous and cartilaginous; sometimes it is like a fold thrown across the canal.

The most common seat of stricture is at the junction of the membranous with the spongy portion of the urethra, or a little in front. There may be one, two, three, or more.

When a stricture is once formed, it never tends to get well, but gradually becomes worse; the contraction goes on increasing; as it grows larger, firmer, the urethra behind it becomes dilated; the prostate becomes irritated; the muscular coat of the bladder thickened and hypertrophied, and its lining membrane disordered. Even the ureters become distended and tortuous; the kidneys congested. The stricture extends its pernicious influence in a direction backwards to the seminal ducts; this, with the constant irritation, makes the patient nervous and depressed. The general health suffers, and he becomes a wreck. If, however, the patient takes timely advice and puts himself under our care, these evils may be avoided.

The general symptoms are more frequent calls to make water. The effort to do so is attended with pain and difficulty.

The stream is diminished, and is either forked, twisted or scattered. In very bad cases passed drop by drop, and with much straining. The act of micturition often followed by rigors, prostration and a febrile exacerbation. Usually a continuous gleety discharge from the urethra, often intercurrent attacks of orchitis and other local inflammation. The patient at all times is liable to fits of complete retention.

When some of these symptoms exist, there is reason to suspect a stricture; a silver catheter, No. 6, should be passed, if possible, to ascertain the state of matters; it should be cautiously passed, feeling its way carefully, and the character and amount of the obstruction estimated. If that size cannot pass, a smaller one should be used.

The silver catheter is better than any sound. Before being used it should be well warmed and oiled.

In the introduction of the catheter, either to ascertain the size or nature of a stricture, the patient should be placed in the recumbent posture, and an instrument that will pass put through the stricture and permitted to remain half an hour, followed by an iodol. This should be repeated every other day, a larger instrument being used every time until a No. 12 passes easily. Various ointments are in use for the purpose, as resorcin, iodol, aristol. By this simple method of the introduction of these silver sounds and cerates the stricture will gradually disappear, and never return; whereas if it is burned out by electricity, or slit up with a stiletto, they will invariably return again and again.

There are cases met with in which the stricture is dense, has become cartilaginous, due to the microbe of syphilis, that are benefited by antisyphilitic remedies, and in which the instrument has to be forcibly pushed through and retained, and a process of gradual dilatation carried out; or suppose it to be impermeable a full-sized catheter should be pushed through into the bladder and retained there fourteen days, during which period it will be wiped out by a process of suppuration. But suppose, again, a very small instrument can be inserted, even with great difficulty, our dilator should be inserted, which rapidly restores the urethra to its natural calibre.

We might again repeat that there is no plan of treatment so safe, so successful, as gradual dilation, and when properly carried out under our directions they never will return.

The Effects of Stricture.—The effects of a stricture on the urinary organs are very many and often serious, being dis-

astrous in proportion to the amount of obstruction to the passage of urine, and may all be prevented by our method of treatment.

The urethra behind the stricture is always irritated, thickened, hypertrophied; gives rise to a persistent gleety discharge; in other cases it may be dilated by the backward pressure of the urine into a pouch or sac.

In all cases the mucous membrane is inflamed, often ulcerated, ragged; the lacuna enlarged, forming little pockets, in which microbes, the urine, and products of inflammation accumulate. The progress of these cases is onward; ulceration penetrates the urethral walls, and *urinary fistula* follows. There is liability to extravasation of urine, and great damage to the prostate and bladder.

In cases of urinary fistula, it is usually immediately behind the stricture and is the result of the damming back of the urine giving rise to ulceration, or gradual thinning of the urethral walls, until it eats through. The urethra is more liable to perforate in the bulbous portion. In bad cases a large amount of tissue may slough off.

Complete retention of urine from an organic stricture is generally brought about by some complication, as anything which excites active congestion, as a highly acid state of the urine, spasm of the muscles at the neck of the bladder.

When urine is retained in the bladder the micrococcus urea is evolved, which often gives rise to dreadful results, pain, inflammation, thickening, involuntary contractions, and hypertrophy, with sacculated bladder.

Retention of urine may be due either to a congested or swollen state of the mucous membrane of the urethra, or stricture, or paralysis of the neck of the bladder from the gonococcus migrating back to the ejaculatory ducts and bladder.

The first indication in the management of this is to render the urine alkaline by repeated doses of the uric acid solvent; hot hip baths; the application of a solution of belladonna to the pubes, penis and perineum, just as hot as can be borne; cocain suppositories introduced into the rectum. These and other means failing, a catheter should be introduced and drawn off.

THE GONOCOCCUS IN THE KIDNEYS.—Gonorrhea is a frequent causative factor in disease of the kidneys, even active inflammation.

This is produced by a migration of the micro-organism along the bladder and ureters

This is the result of excessive stimulation by copaiba and cubebs, causing partial retention. The bladder being filled causes the urine to collect in the pelvis, calyces and tubules of the kidney, a sort of damming back; in this retained urine the gonococcus is present.

Besides the two remedies mentioned often induce disease of the kidneys.

Gonorrhea in the Female.—The multiplicity of causes discharges in the female, render the use of the microscope indispensable for the diagnosis of every case that comes under our observation. The presence of the micrococcus of gonorrhea is far more common in the vagina and even of the neck of the uterus than in the male urethra. The presence of the gonococcus in any discharge renders it contagious, but there are discharges due to the presence of other germs, as the pyogenes, or pus germ; the sarcinæ of uterine catarrh, which, if they be present in the vagina when coitus takes place, give rise to quite a discharge in the male, which cannot properly be termed a gonorrhea.

To be more explicit, a woman may be capable of communicating any discharge she may have, for all of them contain germinal matter of some kind, and are all contagious, but the genital discharge, which communicates gonorrhea, must have the gonococcus in it, and she must have received it from an infecting source.

The thousands of male patients who have consulted the author with regard to their gonorrhea have all, with but few exceptions, obtained it from the fresh secretions. Still there is no doubt that certain discharges from the vagina, when no gonococcus is present, are also communicable.

When a gonorrhea exists there must be present the pathogenic microbe as its cause, usually in forming nests in the crypts or follicles of the mucous membrane; a high grade of inflammation is present, and the vulva, urethra and vagina are bathed with thick greenish pus. The urethra is usually invaded with the germ, and many maintain that the persistence of urethritis is good for diagnosis. This will not do, for urethritis is often caused by vascular excrescences and other states, and we must depend upon the microscope for a correct recognition of the case.

It is important in practice to be able to say positively that such is the case; and we have only one positive landmark to guide us, and that is the presence of the germ in the field of the

microscope. Unless this is used there is great incertitude regarding it. Very true, nearly all cases of gonorrhea in the male are derived from the fresh secretions of the vagina.

Inflammation of the urethra is present in all females who have gonorrhea; a very rare symptom of all other affections of the genital tract.

The gonococcus often gives rise to vulvitis, the mucous membrane covering the labia, the follicles of which in some cases pour out a thick purulent secretion, often extremely offensive, and the pain is excruciating.

The microbe, once in the vagina, is very apt to migrate into the neck of the uterus, unless our specific treatment be adopted; there it gives rise to ulceration or erosions of the cervix; still further the germ may find its way into the uterus, although in the large proportion of cases it is confined to the cavity of the cervix.

The two great causes of intrauterine catarrh are either repeated abortions or the microbe of gonorrhea.

From the uterus the ovaries are often attacked, and no doubt this is the chief cause of the sterility of many women. There is no doubt that the presence of the gonococcus in the vagina, uterine appendages, is the chief cause of the notorious infertility of prostitutes.

Leukorrhea of a contagious character may arise from numerous causes, as immoderate sexual intercourse, violent masturbation, the presence of vegetations, errors in diet, ascarides in the rectum, and the external influences of cold; moisture.

Vaginitis may be caused by scarlatina, and in young children from malnutrition; teething; ascarides.

COMPLICATIONS OF GONORRHEA.—There are several accidents which may happen to a patient suffering from the presence of the gonococcus, such as enlargement of the glands of the groin, balanitis and inflammation of the prepuce, prostatitis, retention of urine, abscess of the periurethral tissues, etc.; gonorrheal rheumatism and ophthalmia. In inflammation of the urethra, the glands of the groin become engorged through reflex irritation, or by migration of the gonococcus into the gland through the lymphatics.

Sometimes the skin of the organ becomes of a rosy hue and more or less considerably swollen, while the lymphatics are inflamed and enlarged. The penis sometimes becomes greatly enlarged, twisted, and so painful as to cause sleeplessness and feverishness; when but a few simple remedies will subdue this

apparently serious condition. Sometimes, however, diffuse suppuration of the prepuce takes place, followed by gangrene. At other times there is induration of the prepuce. Balanitis, that is, inflammation of the covering of the glans and inner aspect of the prepuce, is often a complication when the discharges are not neutralized or washed away.

There is a very peculiar, chronic form of balanitis, not caused by either of the venereal germs. It consists in areas or patches of a deep-red color, with a slight exudation or moisture; the patches are neither raised nor ulcerated; they are not round, but have abruptly margined edges. They are generally met with in men over the middle period of life. They often remain for years, with no change unless it be a slight extension. The surfaces affected look slimy and glazy, and easily crinkle like tissue paper.

Phimosis results either from serous infiltration of the prepuce or from inflammation. Paraphimosis sometimes takes place when the retraction is behind the glans. When phimosis coexists with balanitis injections of solution of aristol under the foreskin speedily effects a cure by killing off the germs. In obstinate cases circumcision is often required. This, of course, exposes the glans penis, which in no way lessens the sensibility of the gland, as some suppose.

The sacrament of circumcision, as practiced by the Jews, is no prophylactic against gonorrhea, but a most effectual check on inoculation by the syphilitic germ, hence the wisdom of the act.

Bleeding from the urethra is common in gonorrhea when a stimulating plan of treatment is carried out, and should be checked by cold; rest; gelsemium.

In cases of retention of urine the patient must be placed in a warm bath (102 degrees F.) and warm relaxing injections of lobelia into the rectum. The seminal vesicles often suffer, so does the prostate become congested, especially if there be connection, masturbation, or nocturnal emissions, or alcoholic drinks as an element in the case. The symptoms of congestion of the prostate are weight and pain in the perineum, painful and frequent micturition, tenesmus and great anguish. The prostate can be felt to be enlarged and sensitive by the introduction of the finger into the rectum, and when a catheter is introduced into the urethra it is suddenly arrested; there may be rigors; fever; insomnia. Either resolution or suppuration may take place, but if the former all goes well; if the latter, the

abscess may burst into the rectum, or urethra, leaving a cavity and giving rise to extreme danger. Prostatitis produces chronic hypertrophy in old men; in the young, tubercular enlargement. In rare cases, in the hands of the inexperienced, or badly managed, it may prove fatal.

Chronic prostatitis may also be caused by the gonococcus entering the prostate, also by excessive sexual intercourse, or masturbation. In such an affection a leakage, or moisture, is frequent, consisting of mucous corpuscles, epithelium cells with or without pus, much resembling an involuntary seminal emission. The use of the microscope readily clears up what its nature is.

Acute inflammation of the bladder is common, as the germ passes back at any time during the period of its growth. Frequent desire to micturate, with tenesmus, sometimes leading to incontinence of urine, pain with least drop of blood in the urine. Generally subsides rapidly under our remedies.

Epididymitis is also a common occurrence in gonorrhea, when it is treated empirically either by excessive stimulation, or irritating injections. The gonococcus goes for the epididymis, so does masturbation, excess, drinking, but the syphilitic microbe selects the testes proper. In the testicular covering, when the micro-organism of gonorrhea is present, plastic lymph is effused into the little canals, or the cellular tissue surrounding them, most marked at the tail of the epididymis, and long after the inflammation ceases the induration persists, which usually gradually disappears; but they may remain, and be little thought of until sterility of one testicle, or complete infecundity if both are inflamed.

In either case there is either a poverty or a total absence of spermatozoa in the seminal discharge.

Unless epididymis is managed upon our correct princples of treatment, no spermatozoa are to be found in the semen, but if managed with our remedies they will ultimately reappear. If there be induration of both testicles sterility ensues, but this under good treatment may disappear. In the immense majority of cases, epididymitis is not a grave affection; and it is in cases where it is double and under the care of ignorant empirics, followed by hard points in the tail, that it produces sterility.

Gonorrhea does not directly cause rheumatism, but the occurrence of articular rheumatism along with a gonorrhea is common. This consequence of gonorrhea is rarely met with

before the third week, and it is usually confined to a few joints; rarely implicates the heart.

There are two affections of the eye common during an empirically treated gonorrhea; the one is ophthalmia produced by the direct application of the gonococcus to the eye; in the other the sclerotic coat of the eye is affected as in rheumatism.

Fortunately the presence of the gonococcus in the eye is not very common, but when it does happen, there is a sudden invasion of very acute symptoms; lachrymation, abundant mucopurulent discharge from the conjunctiva; edema of the eyelids, with spasm of the orbicularis; chemosis; periorbital pain amounting to anguish, with effusion into the layers of the cornea with a tendency to ulceration. The prognosis of such cases is bad, and demands the nicest tact, care, experience and judgment.

Gonorrhea in women is altogether a less formidable malady than it is in men; the lymph spaces in which the germ lives and multiplies are wide apart, renders the symptoms milder, less acute, more apt to degenerate into a chronic gleet. The principal complications that may arise are bubo and ulceration of the neck of the uterus.

When a woman is affected with gonorrhea she has pain in micturition, considerable scalding, backache, pains in the thighs.

The extent or area of the gonococcus may be either the external parts, the labia, nymphæ, meatus urinarius, or vagina, and neck of the uterus; a discharge of germ-laden mucopurulent matter from one or all; when it involves the uterine neck ulceration is inevitable.

The disease in woman must be carefully diagnosed from other discharges to which they are liable. From leukorrhea, a thick white discharge; from catarrh of the neck of the uterus, or that termed intrauterine; from vulvitis, inflammation of the external parts of genitals, dependent on a want of cleanliness, or a form from intestinal irritation, very common among children.

The treatment is very similar to that recommended for men, general principles must guide. During the acute stage, rest in bed; hot fomentations; hip baths. Three times a day, at least, the vagina should be syringed out with either a solution of boroglycerid, or ozonized witch-hazel, or resorcin, or creolin, and boroglycerid pastils kept constantly inserted after each injection. The insertions of these latter make short all attacks of gonorrhea in the female.

THE SYPHILITIC GERM IN WOMEN.—All microbial affections, in which the blood, tissues and organs of the body are implicated, present precisely the same conditions in the female as in the male. The syphilitic germ is no exception; but it must be admitted, that the predominance of certain forms of temperament, and particularly the nervous, with the conditions inherent in the manner of living, diet, habits, as well as the special conformation of the genital organs, either exaggerate or lessen certain manifestations of the germ in women.

With regard to the extraordinary immunity of the vagina from syphilitic chancres, its anatomical construction forbids it unless there be a crack or fissure. There is the same distinction to be observed between the hard and soft sores in the female as in the male.

The extraordinary number of cases occurring on the nipple must either be due to carrying the germ on the fingers or by the mouth, in the saliva. As a rule the latter secretion is heavily loaded, as we see the germ carried in tattooing, when the saliva is used. Mammary infection is perfect, sore or no sore, if a sore is seen, coppery red, elevated, slightly eroded, or a crack or fissure; when matured an eroded papule, a pustule of ecthyma, about the size of a ten-cent piece.

The chancre of the cervix uteri is situated either centrally, or excentrically. When central it often passes up to the cavity of the cervix. Papular in form; rarely very large; not painful; sores on both nipple and uterus are liable to have engorgement of the lymph glands in close proximity.

Herpes on the female organs, as in the male, is often mistaken for the initial lesion of syphilis.

The bacillus of syphilis is the same in either sex; has the same histological elements; the same structure; the same progress. And why not? Have not the tissues, the blood, all the elements of both the same chemical composition; the same arrangement in the one as in the other?

The pathognomonic value of induration in chancres and sores has been much exaggerated.

The germ may thus enter in many hidden ways. As a rule, however, women are much more seriously affected from the presence of the germ than men. The bacillus in women may rouse up in their system other germs which are lying dormant, as those of tubercle and psora. The toxin of the germ stains the skin, often permanently; this is rarely the case in men.

The alopecia in women is more severe than in men; some

women lose the hair on the mons, on the eyebrows, axilla, head, which is neither so severe or extensive in men.

Mucous tubercles, condylomata, are merely an efflorescence of the germ, the moisture or secretion from which is pre-eminently contagious. These are often the chief landmarks by which the presence of the germ is recognized in the female. Of course, the worst cases of mucous tubercles are seen among the most depraved elements of womankind. In women, as in men, the germ gives rise to periostitis, ostitis, ostalgia. Periostitis is more common; pains in the joints belong to this. The muscular structure in ladies is more frequently affected, and pain, contraction, weakness and atrophy of the tissue take place. Trembling is the consequence of these affections of the muscles. Some women become greatly emaciated and seem to be twenty years older than they really are. These symptoms are entirely got rid of by the remedies already enumerated, which remove the pains in both joints and bones.

In addition to the headache, insomnia, nervous weakness, and neuralgic affections, commonly witnessed, all of which are amenable to the same remedies.

There is a curious fact in the progress of the germ in some women, that they have occasionally lost sensation in the skin. This syphilitic analgesia is peculiar to women, partial and confirmed, chiefly about the back of the hands, the skin over the mammary gland and the cheeks. This analgesia is mostly superficial and symmetrical.

It sometimes extends to the mucous membrane. Paralysis of special nerves is common, but never difficult to overcome. as in men.

The generative system in women is seriously damaged by the bacillus; they suffer often from leukorrheal discharges, which are contagious. In a great many women the germ, for a long time at least, has little influence on the menstrual function; in some cases it produces total suppression. The cause of these menstrual troubles resides doubtless in an impairment of the general health by the germ. There is little doubt but that the germ produces sterility, and it is a rare fact that many syphilitic women never become pregnant.

Pregnancy produces changes in important glands, which tend to anemia, and this added to the syphilitic germ produces great weakness. Very frequently does not run its full term. and the patient suffers an abortion or premature labor.

How Long Does the Discharge Incidental to Gonorrhea or Gleet Remain Contagious?—This is difficult.

nay, even impossible in all cases to answer. As the best means of deciding the question, it has been laid down that the absence of the gonococcus in the discharge, from day to day, renders the discharge *non*-contagious, bereft of its inoculating power This faith in the presence of the gonococcus is justified by our present knowledge of the germ.

But it is difficult to say when the urethra is free from this micro-organism, as they lodge in the granular patches, the crypts and ducts of glands, having ceased to furnish pus. True, we can say with certainty when the discharge is no longer specific; no longer capable of communicating the disease; that it is not contagious.

This is important, for the gynecologist has made out a formidable list of affections attacking newly married women, whose husbands are suffering from slight urethral discharge; which, giving no pain or inconvenience to the patient, has ceased to attract attention until the unfortunate wife is afflicted by some serious illness of undoubtedly gonorrheal character.

All men, before marriage, should have their urethra examined, especially if they ever have had gonorrhea, to ascertain if there are any warts, granulations, nodules, ridges, bridles, ulcers in the urethra, as we have instruments of great power, and the most scientific methods of discovery, not in possession of the ordinary, everyday physician.

VERTIGO.—A swimming in the head; *muscae volitantes*, specks or spots before the eyes; and *tinnitus aurium*, noises or ringing in the ears, are respectively due to exhaustion of the cerebral pulp associated either with congestion or anemia. Vertigo, a transitory state of giddiness, a whirling or falling, surrounding objects appearing to be in motion, is often followed by headache, nausea. It is a symptom of a devitalized state of the brain, weakness or general disease of the blood, or it may be due to a poison, as opium or tobacco, or alcohol; or of some auditory, cardiac, gastric, intestinal or hepatic affection. Any want of equlibrium will give rise to it. It is often a precursor of apoplexy and paralysis. In aged persons it is often due to disease of the cerebral arteries. Vertigo is the most common of all morbid states of the brain, and its great frequency must be accounted for irrespective of disease or poisons.

It has long been known that the nervo-vital fluid within the skull forms a bed-plate upon which the brain rests; that this watery fluid within the ventricles finds entry and exit from the

brain into the spinal column, so that it comes and goes from spine to brain according as the pressure of blood is less or more.

Themechanism by which the human frame is adapted to go upright is unnecessary to discuss. It will not do to say that it was the size of the brain and ambition that gave him this nervous energy to brace up or take the trouble to be upright. True, the increased size of man's brain and its peculiar richness in gray matter necessitate an increased supply of rich blood. The erect posture placed in the brain aloft, so that blood supply is difficult, but this is guarded against and regulated by the cerebrospinal fluid. Three ounces of fluid is a small quantity; still, the circulation of blood in the cranium is subject to small changes. In extravasation in apoplexy the amount of blood seldom exceeds three ounces; there is no room for more, for that corresponds with the amount of cerebrospinal fluid.

In the recumbent posture, the entire spinal fluid is within the skull, which slows the heart ten to fourteen beats per minute. When the body is raised and the venous blood flows away readily from the brain, the cerebrospinal fluid may outstrip the arterial blood in the race to supply its place, and thus the ventricles of the brain may fill up with water more quickly than its substance with blood, and so the brain blanches and the person feels giddy. In the anemia of exhaustion the ventricles have an increased capacity, and many persons, with feeble circulation, experience giddiness, a sense of insecurity. Besides these there are numerous other conditions that render vertigo more common than the other two symptoms.

The immense size of the human brain, and its extreme richness in gray matter (weighing from forty-five to sixty-five ounces), necessitates a great demand for phosphates, which, if not very abundant in human food, gives rise to a condition of starved brain, of which vertigo is the only symptom. This is common in brain-workers who neglect a phosphatic diet.

Vertigo is a peculiar sensation of giddiness with a fear of falling; a feeling of instability, which indicates a disordered action of the brain, or that portion of it concerned in co-ordination of muscular movements and the maintenance of the equilibrium of the body.

Giddiness has a cause.

If due to an anemic state of the brain, an insufficient blood supply, there will be pallor of the face, dilated pupil, weak pulse, sighing respiration. Then the indications will be stimulants and nutrition, nitroglycerin, protonuclein, cinchona and mineral acids.

If due to congestion of the brain, or plethora, the face is flushed, arteries distended, pupils contracted. Giddiness of this sort is always dangerous, and should be treated actively by free purgation, dry cups to nape of neck and shoulders, mustard to the feet and limbs, with veratrum viride internally and iodide potassa. Congestive form, common among women at the two critical periods of life, when it is of less importance as a symptom than when it occurs in men past the middle period of life. Passiflora incarnata, apiol solution, in liberal doses, if at puberty or change of life.

If due to reflex irritation, to the toxins of the bacteria, and the sarcinæ ventriculi of indigestion or dyspepsia, there is distress after eating, eructation of gases, buzzing noises in the ears, dizziness, which lasts a few minutes, during which he may lose his balance and fall. Specks or cloudiness may occur during the giddiness.

In this form comp. tincture matricaria or nitrate strychnia before meals, papoid or glycerite of pepsin, siegesbeckie tablets, immediately after eating.

Individuals with lowered vitality, the aged, those fatigued by overwork, intellectual or physical, are often the sufferers from vertigo.

The principal reflex causes are worms, either the tæniæ, tapeworms, or the nematodes, or round worms—the former removed by decoction of pomegranate root bark; the latter by santonized obstinate constipation; exercise immediately after eating may provoke vertigo.

Aural and visual vertigo is generally dependent upon the action of toxins on the auditory and optic nerves; such as all the alkaloidal poisons, the toxicity of the products of growth of all disease germs, as malaria, typhoid fever, pneumonia, etc., giving rise to disturbance, altered nutrition of the brain.

General Principles.—Select from two of the following either thyroid extract or protonuclein, or matricaria, or c. p. solution spermin, or kephalin granules, or avena.

If from weak, dilated heart, with albuminuria, matricaria, protonuclein, creatinin, nitroglycerin, kephalin, celery comp.

Hepatic inertia and formation of gall-stones, a prolific cause of vertigo; relieved by phosphate of soda, chionanthus; cured by olive oil and dioxide of hydrogen.

VERBASCUM.—Either the fresh or dried leaves of the mullein plant.

Therapeutic Uses.—Of some value as a germicide in pulmonary tuberculosis, asthma, bronchitis. It increases assimilation, and allays cough.

Preparations and Doses.—Fluid extract doses thirty to sixty drops water.

Mullein oil, prepared by steeping the fresh mullein leaves in olive oil, submitting it to polarized sunlight, and before percolating adding peroxide of hydrogen. Of immense utility in earache and deafness. Instantly, as if by magic, gets rid of all purulent discharges which are so unpleasant and dangerous. Cures deafness, polypus, and neuralgia.

VIBURNUM.—Black haw, a nervine tonic, antispasmodic, exceedingly valuable as a uterine restorative, and an excellent remedy for habitual abortion.

Preparation and Doses.—Fluid extract thirty to sixty drops.

In addition to these new remedies, there is a class of so-called concentrations which must never be confounded with the alkaloids and glucosides, the true active principles of drugs. These concentrated medicines or resinoids are prepared, for the most part, by evaporating, or distilling off, the alcohol of a saturated alcoholic tincture of the drug, until reduced nearly to the consistency of honey, and then gradually poured into about 100 parts of cold water (below 50 degrees F.). When the precipitate has settled, the water is poured off, and the precipitate (resinoid) is washed twice with fresh portions of cold water, by decantation. The resinoid is then spread out in thin layers, and dried in a cool place free from dust.

They are thus really not much stronger than a solid extract in trituration, or an abstracta.

VITAL FLUID.—There are thousands of weak, nerveless, men, who do not know what ails them; thousands of invalids whom the attending physicians cannot account for their rapid waste of strength, energy, vitality; much less check it. Some are treated for malaria; others for neurasthenia; while another class are managed for an exhausted brain; others sicken and die in hopeless despair.

Masturbation, sexual excesses, congress with harlots, perversion of the sexual act, even immoral literature, not only drain off the internal secretion of spermin, so essential for ambition, so necessary for mental vigor and growth, but such weaken, relax, give rise to varicocele and a steady, invisible ooz-

ing of the vitalizing elements—the incessant loss lowers vitality, gives rise to mental disease, hebetude of mind, confusion of ideas, imperfect memory.

The loss of both the internal and external secretions of spermin gives rise to wasting of the reproductive glands—the organ with all its appendages atrophies, becomes small, puny, and wastes away, terminating in impotency.

To-day, a physician who has kept up with the times can cure these cases of seminal leakages, which twenty years ago was deemed impossible. This department of medical science has reached perfection.

In illustration of this we could cite case after case sent us by the most eminent physicians—cases deemed chronic and incurable, which under the germicidal remedies for a few months were restored to sexual strength and vigor.

Twenty years ago the action of the green root tincture of gelsemium and passiflora incarnata with negative ozone were unknown. With their proper use to-day, all nocturnal emissions are completely arrested; and for those invisible losses going on at all times, the salix nigra suppository and bougies act with promptitude; besides, the use of the black willow internally rarely fails.

Twenty years ago, we had neither kephalin, nor avena sativa, nor c. p. solution of spermin, to furnish the system with vital elements to restore enfeebled vitality.

Masturbation, at any age, is a blight—retards growth and development; the brain is imperfectly nourished, a nervous organization is acquired, delusional insanity sets in; the depriving the brain of its internal secretion gives rise to suicidal mania. For this condition, the tincture of ambrosia orientalis meets the leading indications.

VITAL FORCE.—The capability of the vital forces in a condition of health to resist either the evolution or entrance of disease germs is remarkable; but if they are exhausted, enervated, both the evolution, growth and entrance of disease germs is certain.

Sustain the vital forces by every possible means is the key to health, and the primary principle in the treatment of all diseases. Strong vital force renders all bacteria powerless—the destructive germ can only enter when its defences are destroyed. The administration of germicides may kill germs, or stop their growth, but the aim of all treatment is to construct

or build up. The slightest element of devitalization, the defensive mechanism is weakened; microbes become active; but as long as vital force is maintained they are insignificant. Sustain the vital forces, keep in health, which means, have abundance of fresh air, thorough cleanliness, good food, no excesses, moderate exercise, no worry. In sickness this means more; the break down must be repaired, flagging energies revived, stimulated, toned.

Special selection of food, of bathing; massage and remedies to eliminate morbid matter and restore the function of organs; constructive remedies always; tissue-builders to sustain the vital forces. We drive out bacteria; render them harmless by so doing.

VITALITY OF THE SEXES.—There is a prevailing impression that men are not only less subject to ailments and illnesses and are longer lived than women, but an examination of life-insurance companies' tables will show that the term of life of women is slightly longer than that of men. The difference in the mortality rates during the first few years of life is striking. During the first year the mortality among males is decidedly greater than among females. Though more boys are born than girls the proportions are reduced to almost even terms at the end of the first year by the excessive male mortality. Even during the first four years the mortality among males exceeds that among females, notwithstanding the fact that there are practically no distinctions made in the management of the two sexes. Both are subject to the same conditions, are dressed virtually alike, and receive the same food. At about five years the comparative death rate among girls begins to increase. This has been attributed to the fact that boys of this age are more in the open air. The mortality in both sexes diminishes from this time to the twelfth year, when it attains its lowest point. It then steadily rises, being larger in each successive year. Between the twelfth and sixteenth years the death-rate among girls increases more rapidly than among boys, but after the sixteenth year, for several years the rate of increase is more rapid on the male side. The explanations that have been offered for these peculiarities are not wholly satisfactory, but one fact is clear that during early years females possess a greater tenacity of life than do males.

VOMITING AND RETCHING.—Vomiting is due to forcible and repeated contraction of abdominal muscles, the

diaphragm being pressed by closure of the glottis; the stomach is thus compressed against the diaphragm, and by this force, together with its own contraction, the pylorus being closed, and the cardiac sphincter relaxed, the gastric contents are expelled upwards. In retching there are fruitless attempts to empty the stomach, the cardiac sphincter being contracted, or the stomach empty.

Nausea, vomiting, and retching, are present as symptoms in many diseases, as in cerebral, spinal, pulmonary, biliary, gastric, pancreatic, intestinal, uterine, ovarian disorders. They are often reflex, as in pregnancy, irritation of pneumogastric nerve, as in poisons and irritating substances. To disease germs in blood, as smallpox, scarlatina, yellow fever, ichoremia, etc. To acute or chronic gastritis or peritonitis. To abdominal aneurisms, tumors, ascites, to invagination of bowels, strangulated hernia, or some latent, morbid state.

When the vomiting is due to some derangement of the stomach, liver, and intestines, it is likely to be preceded by nausea, dicharge of contents of stomach, biliary matters, offensive secretions, acid matter, pus, blood; tongue usually coated, breath foul, white of eye tinged, abdominal griping pain, fetid eructations, diarrhea, unhealthy stools, and the headache is frontal.

When due to some brain difficulty or reflex condition acting on a weakened bulb, there is no nausea, no food, tongue clean, breath sweet or pure, and if there is headache, is mostly behind; no belching of foul gases.

If vomiting and retching is due to disordered stomach, liver, pancreas, bowels.

Lobelia emetic, cleanse out bowels, saline purge, or compound licorice powder, and follow with cinchona and nitromuriatic acid; a bland, simple diet, rest.

If due to disease germs in fevers, give antiseptics, as echinacea, ozone-water, carbolic acid, and tincture of iodine, yeast and milk.

If due to inflammation, as in acute gastritis, peritonitis, yellow fever, green root tincture gelsemium and passiflora, mustard over stomach, toast-water in half teaspoonful dose, lime-water and milk, ice in mouth, but spit out fluid as it melts.

If due to cholera germs, ozone-water, camphor, menthol, echinacea, carbolic acid and iodine, with external warmth. Vinegar, always at hand, the comma bacillus present in either epidemic or cholera morbus cannot exist in the presence of dilute acetic acid. Give this and the microbe perishes; patient promptly relieved.

If due to alcohol, aromatic spirits of ammonia, with infusion of calumba, or kurchicin.

If due to reflex irritation, in pregnancy, try strong cup of coffee before getting out of bed in the morning; oxalate of cerium in five-grain doses thrice daily; infusion of cloves, lemon-juice. Drop doses of wine of ipecac, laurel-water, sulphurous acid, spirits of chloroform, or, better still, chloroform and menthol.

If due to hysteria, musk-root, wine of aletris, valerian, shower baths, cups to loins. If it does not yield, uterine alteratives; food and liquids in small quantity.

SEASICKNESS.—A flannel roller around abdomen; a few drops of chloroform in sweetened water; inhalation of from five to eight drops of nitrate of amyl. A one per cent solution of nitroglycerin in minim doses, repeated; bromhydric acid, carbonic acid gas, as in champagne, effervescing salt; recumbent posture, head to bow of ship.

In some cases a cup of tea and soda biscuit, early rising, keeping centre of vessel, and avoid wine, alcohol.

WARBURG'S TINCTURE.—The following is the formula for this preparation:

Aloes soc. one pound; rhubarb, angelica fruit, confection of democratis, of each four ounces; elecampane, saffron, fennel, prepared chalk, of each two ounces; gentian, zedoary, cubebs, myrrh, camphor, agaric, of each one ounce. Digest the whole in 500 ounces of alcohol for fourteen days, then percolate, after which ten ounces of quinine are added and dissolved.

Indicated in malaria.

WARTS.—Warts, or papillomata of the skin, consist of enlarged, elongated papillæ covered by horny epidermis—that is to say, a little patch of the papillary layer of the skin has hypertrophied, and the horny layers over it have also increased in thickness. There are several kinds of warts. The common wart, *verruca vulgaris,* is dry and horny, and its surface is mapped out by minute cracks. They are usually multiple, and vary in size from a pin's head to that of a pea. They occur most frequently on the hands and face of young people, and come and go without apparent cause. They sometimes appear rapidly in crops, and vanish quite as rapidly. At times they occur symmetrically—that is, if a wart is on one side of the face or on one hand, another wart will be found at an exactly

similar spot on the other side. This fact may point to some nervous cause, but is supposed to depend upon microbic origin.

Owing to some adverse state or condition in which the protoplasmic elements are either changed, altered or degraded into a disease germ, the *bacterium porri,* which is pathogenic of warts.

The microbe bears culture well in any warm nutrient fluid; if cultures are injected into any animal it invariably causes an abundant crop of warts to appear over the entire body. Contagious and infectious on close contact.

The microbe is at first sterilized, then completely annihilated by the internal and local administration of thuja occidentalis. Lactic or acetic acid also of efficacy; peroxide of hydrogen, bichloride of mercury excellent as follows: Fifteen grains of corrosive sublimate added to one ounce of collodion; painted on the wart once daily until it entirely disappears, is efficacious.

VENEREAL WARTS.—Warts, wherever they exist, are both contagious and infectious. Regarded as simple when they grow upon the fingers. When associated with syphilis, occurring on the male or female genitals, they are denominated venereal. Chancres are, by mere coincidence, often implanted upon the existing warts. On the genitals of both sexes rapid multiplication and bulk is the rule.

A never failing remedy for all warts is the ozonized oil of thuja, administered both orally and applied locally. To be completely successful, to eradicate the spores of the microbe from the blood, it must be administered internally in five- to ten-drop doses in a glass of water thrice daily; locally, parts thoroughly cleansed, well dried and applied several times daily. It is a certain, slow, painless method, never fails.

WEN.—A name given to a circumscribed indolent tumor; without inflammation or change of color of the skin; met with in all parts of the body; their size and nature very variable. They come properly under the head of sebaceous cysts, filled either with a serous fluid or fatty or cheesy substance.

Extirpation is the only treatment available.

WHITLOW.—Properly speaking, whitlow, or felon, is simply periostitis, inflammation of the periosteum of the phalanges of the fingers, and often proceeding to suppuration. The part attacked, however, is confined to the fingers; the same disease may also appear in the toes. Paronychia and onychia are

terms which are used to express the same disease. Surgical authors describe several forms of whitlow or paronychia, according to the textures which the inflammation attacks. Thus it may be situated in the skin, the tendons or theca of the finger or toes, in the periosteum, or it may be seated in the cellular tissue under the nail. When the inflammation is confined to the skin, vesicles appear, which quickly advance to suppuration, and the case requires little attention. When the subcutaneous cellular tissue is affected, the case is more serious, though it seldom extends; there is throbbing pain of the part, and there may be severe constitutional disturbance, and suppuration is a less greater length of time in taking place. The whitlow under the nail differs from this form only in situation. In these cases only the cellular tissue under the cutis is affected, and no great danger or mischief is to be apprehended from the whitlow. When, however, the inflammation extends to the tendons, periosteum, and bone, then the symptoms are very severe; and by extending from the finger affected, up the arm, and involving a large extent of surface, fatal consequences have sometimes been the result.

The commencement of this form of whitlow is indicated by a burning, shooting, throbbing pain of the finger, with a varying degree of constitutional disturbance. Sometimes the febrile symptoms are very violent; and when the arm is involved, delirium and other alarming symptoms come on. At first there is no perceptible change in the part affected; at length, however, slight swelling comes on, which may extend up the arm even to the axilla. In these cases a small quantity of matter is collected under the flexor tendon of the finger or under the periosteum, in which latter case the bone is mostly affected with caries. Whitlows may be caused by some external injury, such as a prick from a needle, pin, thorn, or other pointed object, or they may arise spontaneously. The latter not infrequently occurs in young persons who are apparently in a good state of health.

The treatment consists in applying the most powerful form of local stimulation over the affected part; powerful but not destructive oil or saturated tincture of lobelia constantly applied; but if there be evidence of suppuration, rigors, pains changed to a throbbing, swelling; free incisions down to the affected periosteum are indispensable. At the same time administering antiseptics, such as ozonized concentrated tinc. of echinacea, or peroxide of hydrogen.

WIND DYSPEPSIA.—Flatulence, wind, spasms, or belching—for this affection is known by all these names—is one of the commonest symptoms of dyspepsia, and is often the one of which the sufferer is most anxious to be cured. Dyspeptics nearly always complain loudly of the "wind in their stomach," and frequently enough regard it as being at once the essence and cause of all their discomforts. The gas that produces all this trouble is usually derived from undigested food, detained in the stomach and undergoing a process of fermentation or simple putrefactive change. It is thought that sometimes it is formed by the stomach itself, for the flatulency may come on when that organ is quite empty. Many people always suffer from this disorder if a meal happens to be delayed beyond the accustomed hour. Sometimes the flatus is quite tasteless, while at others it is attended with both the flavor and odor of rotten eggs. Flatulent dyspepsia occurs far more frequently in women than in men. Nervous and hypochondriacal women, who partake of tea, are very liable to suffer from it, especially when there is a general relaxed condition, and want of tone of the system. Frequently the gas accumulates so quickly in the stomach and intestines, and leads to such an amount of distention of the abdomen, that patients have to loosen their clothes from inability to bear their tightness. In many people flatulence is always produced by the use of any food which is liable to undergo rapid fermentation.

The formation of gases in the stomach indicates neurasthenia of that organ. It is, therefore, best to arrange treatment into *palliative* and *curative*.

Palliate the formation of wind by the use of one or other of the following remedies: Either willow charcoal, pulverized, in five- to ten-grain tablets before meals, is of great value; menthol alone—better still in chloroform; a few drops added to water rapidly dispels gases; sulphocarbolates or siegesbeckie tablets; sulphur water, or remedies of the aromatic series—ginger, oil of cajuput, comp. tr. horseradish; in other words, all antiseptics.

Curative remedies are to be selected from the following group: One given before meals, another two hours after eating; both to be changed weekly: Ozonized glycerite of pepsin; comp. tincture matricaria, collinsonia, American calumba, kephalin granules, a most excellent stomach invigorator. Tonics that will dissolve readily in the stomach should have a preference.

At the same time, when those remedies are being used, observe the following rules: The first rule is to eat slowly, masticate thoroughly, and insalivate completely, three things which are by no means always the same. The next rule is to take solids and liquids separately, the latter in the shape of hot water on rising in the morning, between eleven and twelve in the forenoon, about four or five in the afternoon, and at night before going to bed. When these rules do not suffice to remove the dyspepsia, the patient must take his farinaceous and proteid foods at different meals alternately, a farinaceous meal at breakfast time, and again at five o'clock, and meat or fish meals at midday and at eight o'clock. In some cases it will be found advantageous to supplement the gastric juice with a little acid and pepsin.

WORRY.—Man possesses three brains proper, the cerebrum, the cerebellum and spinal cord, and great sympathetic—worry, fret, struggle belong to the third. Nevertheless their very existence injures the brain cells proper, and as the cerebrum presides over all organs—all suffer. Worry acts as an irritant which, if long continued and persistent, makes grave inroads into the cerebral pulp. Occasional worry, fret, struggle, the brain can cope with; it is the iteration and reiteration which the brain cells cannot endure—the persistent blows never ceasing; the same week in and week out, that irretrievably diminishes the vigor of that delicate organism.

The brain wears out more rapidly under worry than under work; the former tires out the brain cells, the great sympathetic, the cortex of the frontal lobes; degenerative changes set in.

The brain can stand much irritation, but it is the perpetual wear in one isolated, monotonous groove that causes metamorphosis.

The effect on the nerve cells is chemical as well as mechanical; fatigue products are found in the cells during the period of repose and relaxation—these products are toxical and produce pathological and microscopical changes in the cells.

The entire nutrition of the body is dependent on normal condition of the brain; if it be unable to eliminate waste toxical substances it loses its vitality; appetite fails; a state of malnutrition sets in. In either sex worry is bad; to a man, with a full-developed great sympathetic, it stamps an impress of deterioration upon his brain; to a woman, with her rudimentary "sympathetic," it is evanescent.

In either case it must be avoided, abolished; the emotion must be dropped.

Passiflora incarnata in very large doses, alternated with kephalin, are our best remedies for a damaged great sympathetic by worry.

That mental strain and kindred affections may and do have an effect on the genitourinary system, aside from that superinduced by masturbation and sexual excess, we have had occasion to observe in a large practice devoted exclusively to the diagnosis and treatment of nervous disease. Thus through close application to business or literary pursuits, lawyers, bankers, ministers and students are very subject to a form of impaired vital and sexual power, which is commonly termed nervous exhaustion; and such cases are usually very difficult to treat, because the system is so run down that there is very little stamina or vitality to rely upon, and many not having any idea what their real trouble is, lose much valuable time in treating for dyspepsia, consumption, neurasthenia, and the like, when really their very life and vitality are oozing away from them in their urine or otherwise. The results of overwork and mental strain are becoming alarmingly prevalent, and coupled with excesses give rise to loss of nerve power and a predisposition to disease. For all such cases I have derived the utmost benefit in my practice from the use of ozonized glycerite of kephalin in alternation with coca.

WOUNDS.—Wounds are defined to be the separation of parts by external violence that ought to be together or united.

VARIETIES.—The incised wounds are those made with clean-cutting, sharp instruments; the punctured, or those made by instruments whose length greatly exceeds their breadth, including stabs or pricks; the lacerated, in which parts are torn; and the contused, or those effected by bruising.

The incised are the least dangerous, as they are produced by little violence, and admit easily of repair. The punctured are dangerous, from their depth, and from the possibility that either deep vessels or viscera may be injured, or that deep-seated extravasation of blood or abscess may follow. The lacerated, or contused wounds, are produced with greater violence, less likely to heal, and more prone to slough or suppurate. They do not bleed so readily as incised wounds.

Treatment.—The treatment of all wounds comprise four indications: (1) to check bleeding; (2) to remove foreign

bodies; (3) to bring the divided parts into apposition and keep them in union, and (4) to promote adhesion.

Bleeding should be arrested by a raised position; the application of a sponge and pressure, and if a vessel is torn it must be tied.

Foreign bodies should be removed by fingers, forceps, sponge, water. The edges are to be brought together by stitches, one in the centre and the requisite number on each side; and they are to be supported by adhesive strips and bandage; and to promote healing, antiseptic dressing should be applied, as solution of ozonized boroglycerid, diluted tincture echinacea, tincture of benzoin, balsam of fir; so as to destroy the micro-organism in the wound.

WOUNDS OF THE EAR, NOSE.—Wash the parts well by dropping cold water on them from a squeezed sponge; then press sponge on the part; when thoroughly cleansed, introduce as many stitches as are necessary to keep the edges together. Even if parts are completely separated they should be cleansed and placed accurately in their place, and stitched there, as they often adhere. Over and above the stitches, dress with some antiseptic, as balsam of fir, or compound tincture of benzoin, or pulverized borax; or if parts have been completely severed, compound tincture of myrrh. Keep wet all the time. Over all some bandage.

WOUNDS OF THE SCALP.—Cleanse thoroughly; remove all foreign bodies, as dirt, sand; shave the parts all around the wound, for one or more inches back; then with lead-wire the edges may be stitched together. If there is no lead-wire handy use adhesive plaster; over it a compress, and then a bandage. Stitches in scalp-wounds should never be made with linen or silk thread. Whatever is resorted to should latterly be followed by some antiseptic dressing, as balsam of fir, pulverized borax, or compound tincture of benzoin, or echinacea.

WOUNDS OF THE THROAT.—Seize and tie every bleeding vessel that can be secured. If the windpipe is only partially cut through, secure it with strips of adhesive plaster. If it is completely divided, bring its edges together by stitches through the skin and the covering of the windpipe on both sides, drawing them closely together. Don't put any stitches through the windpipe itself. Adhesive plaster to be applied, dressed with some antiseptic, and the head kept well bent forward, to aid in the approximation of the wound.

WOUNDS OF THE BACK OF NECK.—The skin and muscles of

the back of the neck are often cut deep to the bone, by razors; head drops forwards. Stitches of strong saddlers' silk to be inserted at close intervals; adhesive strips, antiseptics, and head kept well back to favor approximation and union.

WOUNDS OF THE CHEST.—In simple, incised wounds of the chest their edges should be drawn together by adhesive plaster, and compresses of antiseptics applied, and kept wet, and the chest bandaged so as to confine the ribs; bowels opened, and treatment for pleurisy resorted to. If the wound has been occasioned by a bullet, remove it if possible, or any clothing that may have been carried into the wound. Dress with lotions of permanganate of potassa, and keep patient over on the wounded side, so as to drain it effectually. If a portion of lung protrudes, return it into its place gently. Bayonets, crowbars, etc., penetrating the chest, to be removed, treated antiseptically, and on general principles.

WOUNDS OF THE BELLY.—In wounds of the abdomen, use stitches through the skin only, about half an inch from the edge of the wound; put them close, every one-quarter or one-half inch; apply between strips of plaster, and over all compress, kept wet with compound tincture of benzoin, with bandages over entire abdomen, followed with grain doses of opium every two or three hours. Treat for peritonitis; anticipate it; don't wait till it comes.

Should any portion of the intestines protrude, wipe them clean and return, if they are uninjured; but if wounded, carefully remove all foreign bodies, clots of blood, and then stitch them up with an over and over stitch, and return, closing the wound in the walls as in the simple wound. Treat at once for peritonitis. Wounds of the liver, spleen, bladder, kidneys, are very serious, but not necessarily fatal.

WOUNDS OF JOINTS.—In all wounds of joints, the opening must be at once closed by stitches in skin, adhesive plaster, paraffin splint applied to secure rest; opium and veratrum viride given freely. Begin passive motion as soon as inflammatory action ceases, say in two or three weeks.

WRYNECK.—A deformity caused by a rigid contraction of the sternocleido muscle on one side of the neck. It may be either congenital or acquired; if the former, it may be cured by a subcutaneous division of the muscle and wearing an apparatus to maintain extension, until the muscle resumes its natural condition; if due to acquired causes, chiefly those due

to some reflex irritation, such as teething, worms, masturbation, removal of the cause is indispensable.

YEAST FUNGI, THE.—In catarrh of all the hollow organs of the body, as the stomach, bowels, bladder, uterus, the yeast fungi grow side by side with the sarcinæ. Yeast torula consists of spherical or oval cells, very much larger than the largest micrococci; each cell consists of a membrane and contents. The contents are either homogeneous, or finely granular protoplasm; in the latter case there are generally present one, two or more vacuoles.

There are a great many species of torula, varying from one another morphologically, chiefly in their size, and physiologically by their action on different fluids.

The cells of all of them multiply in suitable media by gemmation, a minute knob-like projection appearing on one side of the cell and keeps enlarging till it reaches nearly the size of the original mother-cell. It finally becomes constricted or exfoliated off from this latter, or having reached its full size remains fixed to the mother-cell, and each cell again producing by gemmation a new cell. In this way, aggregations of four, six, eight, or more cells are formed, which may be arranged either as a chain, when the production proceeds in a linear manner, or otherwise, or as a group if the gemmation takes place laterally.

Under varying conditions of nutrition or growth, yeast cells are productive of organic change, such as the evolution of the malignant neoplasm in some of its varied forms.

YELLOW FEVER (*a Streptococcus, or Fungus*).—The microbe or fungus of yellow fever has been found difficult to isolate and cultivate. It is a paludal germ, originating in or on the banks of rivers, spread by maritime commerce over the entire intertropical zone of the globe. The mouths of which give rise to mucous, profuse mucous, or mucopurulent great rivers and along the seaboards are the sources of the germ, which, when inhaled, modifies, changes, alters, the primary bioplasm into a diseased fungus, giving rise to yellow fever. The diagnosis rests chiefly upon the location, season of the year; all the symptoms of bilious malignant fever, yellow skin and conjunctiva; heavy dark-brown coated tongue, which subsequently becomes red; nausea, vomiting, first of greenish matter, then coffee-ground appearance, later black vomit; symp-

toms of inflammation of stomach and liver, spleen, kidneys, with intense prostration, acute fatty degeneration of glandular organs.

The symptoms are divided into three stages:

1. Prominent in this are chills, prostration, fever; hard, rapid pulse; violent thirst, red face, restless; nausea, vomiting slimy, greenish, coffee-ground matter; cerebral congestion, with pain, eyes red.

2. Add to the above, gastric disturbance much worse; the tongue heavily coated, dry, cracked; irritability, much vomiting, persistent, of brown mass, coffee-ground flakes, indicate approaching hemorrhage.

3. Face very yellow and livid; eyes dull, sunken; nose pinched, or lips, tongue brown or black, intense burning pain in stomach and liver, spleen; suppression of urine, oppression of chest, difficult breathing, pulse small and tremulous; skin cold, clammy; great prostration; vomit, brown turbid matter, mixed with dark clotty blood.

The most successful remedies ever used, and under which the mortality of this fever is reduced to a cipher, are germicides.

A microscopical examination of the blood shows minute cocci, which occur in chains, distend the capillaries and lymphatics of all organs enumerated.

There can be no doubt that the microbe is pathogenic of the fever, as it is pre-eminently contagious and infectious.

In the treatment the most rigid sanitary measures must be enforced for fever. The bactericides which have been found of utility are Warburg's tincture and ozone-water; con. tinct. kurchicin and hydrocyanic; sulphate quinine and gelsemium.

General Measures.—Isolate the patient in upper story room. Keep him quiet, free from light and noise, and in a horizontal position. Abundance of fresh, pure air; sponge the body thrice daily with water acidulated with nitromuriatic acid. Packs or thick compresses, same water to head, over the stomach, liver, spleen and entire body.

All authorities are agreed that the evolution of this germ depends upon solar heat, malarial and paludal miasmata, together with intense insanitary conditions, which act as a foster-mother to the microbic growth; either by inhalation, or orally or cutaneously, it enters the body, finds access to the blood, passing its stage of incubation, lodges in the blood-forming glands, especially the spleen, and then develops its peculiar toxin or poison.

This pathogenic microbe is remarkably tenacious of life, retaining its vitality for many years, in heat, in water, even after it has been dried.

The following treatment is generally successful: Nursing of special importance, the best ventilated apartment for the patient, bathing thrice daily with hot water acidulated with hydrochloric acid, ice-water with c. p. peroxide of hydrogen for vomiting, very large doses green root tincture of gelsemium and passiflora administered, repeated doses of periodate aurum, one suppository of kurchicin every three hours; beef juice extracted by water acidulated with hydrochloric acid and pressure the only source of nutrition for a few days.

Formalin, one tablespoonful to a quart of water, divided up into four saucers and exposed in the apartment is the best disinfectant; it has been thoroughly tested and has merit in it.

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